

DIARY

Crunching up the numbers game

To a plastic hotel in Solihull to learn a new vocabulary of educational research (which I italicise for the uninitiated) discussing courtesy of the Economic and Social Research Council, the measurement and management of local authorities and of schools. Though measuring children is an established art, measuring schools is a relatively new one. The great 19th Century educationalists such as Matthew Arnold or Edward Thring would have been deeply suspicious of both phenomena. I don't like it much either - but it's all the vogue, so I report my Solihull experience for the record. The story goes something like this:



Baroness Cox

At issue in this particular branch of educational research is the resolution of the current argument between Sir Keith and his advisers - how much does money matter in the delivery of quality education? The name of the game is crunching increasingly sophisticated numbers. At first there were only two really "hard" educational sets of numbers for the researchers to crunch, when they wished, as they put it, to get some purchase on the problem - the input of how much money is spent and the output of what grades youngsters get at O level. Now it's more exciting, with lots of social indicators for the computers to crunch up with the educational ones.

The research has been sponsored by a 10-year-old war of educational statistics. The O level side of the equation is a direct descendant of the Black Paper

and feudal shire counties - such as Somerset, Norfolk and Wiltshire - at the bottom. Ah, said some of the county education committee chairmen, that's not fair. We get more O levels per £ than ILEA, we deliver better value for money. Sir Keith seemed to agree. Money wasn't everything, he was doggedly vague about exactly how important he thought it was.

So a new brand of educational research into "value for money" was born - and quite new researchers rolled up their sleeves and got on with the job of number crunching. In particular, Peter Wilby in *The Sunday Times*, Dr John Marks, Baroness Cox, and Mr Pomian-Szednicki (whom the Sheffield researchers refer to as "MCP" for short) and the DES's own statisticians. At the Solihull colloquy was Rodney Lord who has now regressed from crunching schools at the City University to become Nigel Lawson's economic adviser; and Dr John Gray and his team at Sheffield University who are currently cooperating with the Institute of Local Government Studies at Birmingham University.

Raw "expenditure" inputs are combined with social ones (one parent families, free school meals, number of independent schools in the area, etc.) and raw O level outputs with "consumer satisfaction" ones (early leaving, delinquency rates, employment prospects, etc.). One result is to rearrange the local authority league tables in a

manner more comforting to the shire counties. Indeed, one researcher, David Jesson of Sheffield University, succeeded in convincing the assembled experts of an even more comforting conclusion - that 80 per cent of the variations in local authority spending are wholly predictable, especially if you take account of historic differences in local authority spending, like variable pupil/teacher ratios. He produced a nice scatter diagram with little stars showing all I.e.s. clustered close to the norm and only ILEA standing out like the pole star in the stratosphere.

Much of the research should serve to silence Sir Keith's more simplistic educational advisers for a period. I was left wondering, along with some of the chief education officers present, just exactly how all these crunched numbers can help educational administrators run the schools? The answer seems to be - "not very much at the moment, but we've hardly started yet". Stunned by the new buzz word - *disaggregation* - switching the statistical base from local authorities to individual schools. This could start to put the heat on the schools - especially complacent ones. Posh grammar schools could be exposed as actually doing rather badly, in spite of good-looking exam results, but it could lead, in the longer run, to a more rational school league tables replacing the *local authority* ones. Though no one wanted that to happen, many had a sinking feeling that it would.

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Cultural vandalism

To the House of Lords to campaign against UNESCO. The enormity of the Government's policy of educational vandalism is slowly dawning on the day, they have begun to campaign together. These latter time, the Government has given notice to withdraw by the end of the year the British and US money from the back of the past year's UNESCO - the American money organization which maintains many of Reagan's policies and the withdrawal from UNESCO. Foundation has been quietly and successfully turning their attention to media for some time now. Co-Whitlam, the former Australian Minister and David Ennals, now in the House of Lords, have documented the steady US pressure on the British Government to get withdrawal would not only be wrong in a world that depends needs better links between the the poor nations; it would be likely short sighted also. Britain most of its £5 million subscription projects that come to this country.

When UNESCO was set up, National Commission of disciplines, academics, scientists and cultural government on policy matters. thought it would be a safe haven from political interference. The wrong. Unlike most UNESCO commissions in other countries, it is chaired by a member of the Government - at present Timothy R. Minister for Overseas Development. He summons the Commission frequently and at his convenience delivers himself of what I can only charitably assume (having listened to him) to be not his opinions but his instructions by prime ministerial orders to pursue.

The Commission has so far been a dilettante, not yet voted in nearly 40 years. going to be allowed one last meeting in October or November, before Government carries out its threat to pull out on December 31.

Christopher Price

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L.e.a.s urged to join study into NAFE efficiency

by Diane Spencer

Sir Keith Joseph, the Education Secretary, has invited the local authority associations to take part in a joint study with the Department of Education and Science to improve efficiency in non-advanced further education.

His invitation comes in the wake of the publication yesterday of the Audit Commission's report on obtaining value for money from further education.

A parallel study of efficiency in public sector higher education is to be carried out by the National Advisory Body, Sir Keith said.

"The Commission's recommendations demand urgent attention at all levels in the education system with the object of ensuring that effective courses are provided as economically as possible," he said.

It highlights four main areas for improving value for money: marketing of courses, tailoring teaching resources to demand, recovering costs, and tighter control on non-teaching costs such as cleaning.

College lecturers' unions gave the report a hostile reception. The National Association of Teachers in Further and Higher Education said it was "an educationist's nightmare and an accountant's pipedream". The Association of Polytechnic Teachers said it was "improper" of the Commission to comment about institutions they knew nothing about.

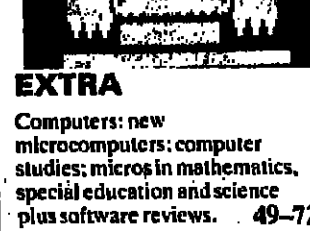
The Association of Principals of Colleges thought that an audit on education, as well as value for money lines, would be more beneficial.

Mr Bernard Smith, press officer for the APC and principal of Vauxhall College, south London, said the Commission's figures failed to take account of vital non-teaching activities such as staff development or health and safety.

In his college, for example, staff had worked for no pay to get a course started for women as part of the authority's commitment to equal opportunities. "That kind of thing doesn't show up in their statistics," he said.

The vice-principals' association, ironically, discovered at its conference last week (page 9), that colleges were willing to go in for marketing, but lacked time and money.

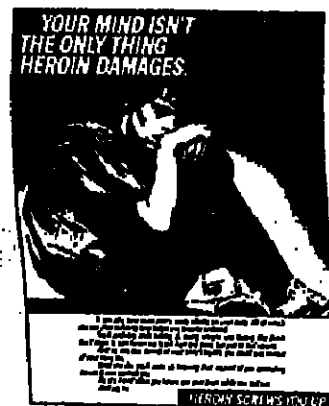
The Association of Metropolitan Authorities, which this week gave the go-ahead to the MSC/local authority policy group's proposals on funding of NAFE (page 15), thought the report "simply"



EXTRA

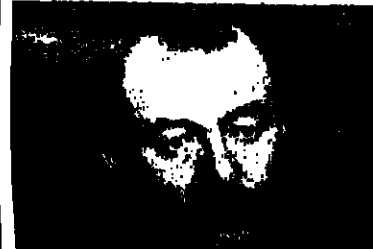
Computers: new microcomputers; computer studies; microfilm in mathematics; special education and science plus software reviews. 49-72

Spitting into the wind



The Government's £4 million advertising campaign on drug addiction - *Heroin Screws You Up* - is imaginatively put together. But I offer no marks for either initiative or imagination to the DES, whose contribution - a niggardly £20,000 upiece for each local education authority to appoint an adviser on drugs - is just spitting into the wind. There is now plenty of expertise on drug addiction available in the community, some of the most effective from ex-addicts who have been through the whole painful experience and survived it. What is needed is a national effort to co-ordinate this expertise and help teachers to learn from it.

Tough at the top



Ken Livingstone

Ken Livingstone has set himself an important task for his new parliamentary career in a recent visit to Eton he promised the young gentlemen he would abolish them, given half a chance.



Sir Martin Charteris

In this term's school mag, Sir Martin Charteris, the Provost, strikes back. "It's a pretty tough outfit this; it'll take some killing. We shall fight them on the beaches..." I can't wait for the epic struggle.

Christopher Price

ACC changes affect Burnham balance

Labour set for pay takeover

by Mike Durham

Labour is confident of wresting control of the teachers' pay negotiations from conservative local authority leaders. Following the first meeting of the young Association of County Councils.

The ACC's executive this week appointed an education committee on which the Conservatives are for the first time in an overall minority.

At the same time Labour became the biggest single party on the ACC with the admission of the Greater London Council and three metropolitan counties, giving Labour an extra 20 seats.

The metropolitan counties have not previously applied to join and the move was opposed by Tories who feared them of "buying seats" for Labour. But it emerged that the council had an automatic right to membership.

The ILEA has not applied to join. But the GLC delegates include prominent ILEA members Mrs Frances Morrell and Mr Steve Bundred, as well as Mr Ken Livingstone.

When the committee meets on July 1, the Tory chairman, Mr Philip Merrile, who has led the Burnham pay negotiations for three years, is expected to be replaced.

Labour have named their candidate for ACC education chairman, which

may not be decided until July 4, as Mrs Josie Farrington, the Labour education spokesman from Lancashire.

And Labour leaders are now convinced they will have enough votes to give them an overall majority on the Burnham management panel.

The membership of the ACC's delegation to Burnham could be resolved at a special sub-committee on Monday.

If Labour do take control, the person most widely tipped to become leader is the Labour Association of Metropolitan Authorities education chairman, Mrs Nicky Harrison.

AMA have called for a meeting of the new management panel.

A new initiative based on an "end-loaded" or "phased" settlement, in line with similar talks with the FE lecturers, was under discussion by Labour leaders this week.

Mr Giles Radice, Labour front-bench spokesman on education, insisted the pressure on the Conservatives by asking the Education Secretary, Sir Keith Joseph, to meet a delegation of Labour local authority leaders.

In a letter to Sir Keith, Mr Radice said he wanted to discuss the teachers' case and the need for extra government money.

Pay dispute stalemate page 5

Sir Keith warns on geography

by Susannah Kirkman

Geographers have been warned by Sir Keith Joseph, the Education Secretary, that they must define their subject more carefully if geography is to remain available as a separate subject up to 16.

"Geographers themselves have to be clear about what their subject is, and it is on this basis that the subject's claim for scarce curriculum time should be made and judged," Sir Keith told members of the Geographical Association at their conference this week.

In a key policy speech on the content of the subject, Sir Keith said geography was a politically-charged area, and hit out at geography teachers who suggested there were simple answers to complex questions such as Third World poverty and inner city decline. He also urged more study of the factors which caused individual human endeavour to flourish (page 12).

His views, contained in a series of articles on radical activists in the subject who have questioned the values behind traditional geographical approaches and resources, were welcomed by Association members whose main concern was the place of their own subject on the timetable.

Asked whether he envisaged geography existing as a separate subject at the 14 to 16 level, Sir Keith replied that, while it would be very wrong for that age group not to be "constantly exposed" to the humanities, geography could not be considered on its own. It was up to geographers to argue and convince I.e.s and the Government

that geography deserved a place by itself in the curriculum.

Geographers should identify the areas which overlapped with other subjects. "It seems to me particularly important that the 5 to 16 curriculum should bring geography and history into a relationship in which they reinforce each other," the Education Secretary told the conference.

He urged geography teachers to explore the subject's links with scientific method, as geography provided a valuable bridge between science and the humanities.

Challenged to defend the Government's emphasis on scientific and technological skills, which was putting pressure on the curriculum, Sir Keith said that technical schooling had virtually vanished, yet an understanding of science and technology was essential. If we were to keep pace with our economic competitors and provide resources for education.

Sir Keith admitted that financial cuts set limits on activities like fieldwork, which he had praised in his speech, but said that it was up to I.e.s to save money by reorganising schools with falling rolls.

The President of the Geographical Association, Mr Patrick Bailey, denied that geographers felt threatened by Sir Keith's comments on the place of geography in the curriculum. "Geography is perfectly able to look after itself, providing geographers are clear about the distinctive contribution it has to make," he told *The TES*.

NOTICEBOARD

PEOPLE...

Mr Elaine Ball, previously acting head of Rushmore Junior school east London, has taken up her post as head of Lucas Vale primary school, south-east London.

Mr David Rakoff, deputy head of Padham Green CE school, Burnley, to be head of Great Harwood St John's CE primary school from September on the retirement of Mr Derek Pickles.

Mr Christopher Ryan, deputy head of Accrington Peel Park primary school, Lancs, to be head of Harwood Western primary school from September on the retirement of Mr Wilfred Eddy.

The following appointments have been made to the National Steering Committee for Records of Achievement Pilot Schemes: Mr P. Clarke, Harrogate College of Further Education; Mrs M. Corks, West Midlands Examinations Board; Mr J. Dutton, Richmond School, North Yorkshire; Mr B. Fletcher, St Thomas' High School, Devon; Mr J. Glasscock, British Aerospace; Mr D. Moy, senior management development, J. Sainsbury; Mr M. Pynn, Cumbria county council; Mr J. Perry, TVEI evaluator, Leicester University; Mr A. Pickavance, Calderdale metropolitan borough council; Miss M. Reid, deputy director, National Foundation for Educational Research; Mrs M. Rogers, The Dene School, Cleveland; Professor M. Shipman, Southampton Institute of Higher Education; Mr B. Whitfield, Haurin Limited; Mr R. Whitaker, Joint Matriculation Board.

CONFERENCES...

June 19

Introducing Contemporary Japan's education faculty in association with the Japan Information Centre from 9.15 am to 7 pm in the polytechnic's library lecture theatre, Chester Road, Sunderland. It is designed as an in-service course for local teachers, counsellors, and business and professional people. Topics include Anglo-Japanese relations, connections with the North-East, Japan's business culture, Japanese society, new technologies and pollution and conservation. Attendance is free and 150 places are available. Details from Wendy Robertson, Centre for Educational Research and Development, Sunderland Polytechnic, Gray Road, Sunderland SR2 7EE.

July 12-14

Standing Conference on Education for Understanding annual conference on Learning through experience at Newman College, Birmingham. It will be of special interest to those concerned with CPVE and TVEI. Details from Peter Rogers at the college.

July 12-14

National Association for Curriculum Enrichment and Extension conference at Clifton Hill House, Bristol on *Meeting the needs of able children*. Fee £50 residential, £15 non-residential. Details from Dr David George, Nestle College, Moulton Park, Northampton NN2 7AL.

EVENTS...

June 14

A celebration of the centenary of Susan Isaacs at 5.30 pm in the Jeffrey Hall, University of London Institute of Education, 20 Bedford Way, London WC1. The speakers will be Edna O'Shaughnessy and Margaret Roberts. Details from Mrs Audrey Curtis, Department of Child Development and Educational Psychology, 01-636 1500.

June 17

Mrs Frances Morrell, leader of the ILEA, will speak on the ILEA Religious Education Syllabus at a meeting organized by the World Congress of Faiths at Essex Unitarian church hall, 112 Palace Gardens Terrace, London W8 at 7.30 pm. There will be an open session for questions and discussion after the talk. Admission free. Non-members welcome.

June 22

University of Kent at Canterbury 20th anniversary open day from 10 am to 5 pm. Full details of the programme of over 80 illustrated short talks, drama, sports and guided tours from the University's Information Office, Tanglewood, Gile Lane, The University, Canterbury.

June 25

BEHNS summer lecture on *The management of stress* by Dr Graham Wilson-Pratt at Ellen Wilkinson high school, Quagge Drive, North Ealing, from 6 pm to 8 pm.

Until June 30

Art from schools and colleges will be on display at two exhibitions at Dulwich Picture Gallery, south

London. The first, *Interpretations*, is organized by Kingston School of Art and features the work of a group of art students who spent part of last summer working in the gallery. The second, *Images*, displays work from ILEA schools in Lambeth, Lewisham and Southwark. Details from The Gallery, College Road, London SE1. Tel 01-693 5254.

PUBLICATIONS...

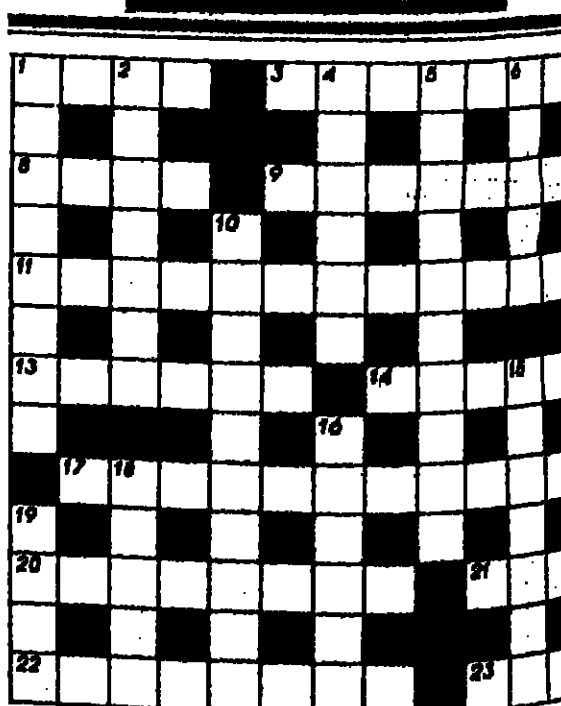
Problem-Solving News is a termly newsletter published by the Bulmershe-Comino problem-solving project for teachers and all interested in problem-solving. It contains reports by teachers on how they teach problem-solving theory and research, book reviews, etc. It costs 50p per issue and is available from Professor K. Jackson, Bulmershe College of Higher Education, Woodlands Avenue, Easingly, Reading, Berks RG6 1HY.

Aspects of Care in Schools is a recent University of Sheffield division of education paper. It is the result of a study guided by Pam Poppleton and is subtitled *Good pastoral care in two comprehensive schools: the teachers' perspectives*. It costs £2.95 and is available post free from Publication Sales, University of Sheffield Division of Education, Arts Tower Floor 9, Sheffield S10 2TN.

HMI Reports: a directory of HMI

reports published by John Howson, Education Data Surveys, 3 Harley Road, Oxford OX2 0HS.

No 207 CROSSWORD by Ruth



Across

- 1 Nutsome cable ground up (4)
- 2 Magpies to hood-wink member of a panel (6)
- 3 Decline and fall (4)
- 4 Excel and a boot-black? (8)
- 5 Doubts about book-ings? (12)
- 6 Sampled the last of the fruit fresh dates (6)
- 7 Kept a record that's scratched (6)
- 8 Aware of a rising sea, but far from queasy (7, 5)
- 9 Jumpy, about, dress getting (6)
- 10 As last he starts to

Down

- 1 Reduce speed, after a fashion (8)
- 2 King who had plenty from various sources (7)
- 3 Making jokes with no beginning, purely visual (6)
- 4 Prepared for a con-tingency, as a judge should be (4, 2, 4)
- 5 Work to rule? (5)
- 6 Regrets making
- 7 It's something to go

THIS WEEK

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Sea of troubles: Roy Foster reviews some new political and social analyses of events in

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Jack Stephen on a century of mining literature; *Famine*: a report on the New York school that inspired the television series. 24-29

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Computers: new microcomputers; computer studies; microfilm in mathematics; special education and science plus software reviews. 49-72

Weeding FE's secret garden

The FE world has been understandably apprehensive about the auditors tramping through its secret garden, but it would make good sense now to build on some of the useful approaches in the Audit Commission's report on obtaining better value (pages 10, 11). Instead of wasting time and credibility niggling away at accountants who can't always distinguish a weed from a delicate plant in need of nurture.

Further education is a sector which has always tended to carry a chip on its shoulder, whether in relation to the academic prestige of school sixth forms at non-advanced level, or of polytechnics and universities at the advanced stage.

Of late, there have been the added pressures imposed by MSC takeover threats, with ministerial backing for the premise that FE wasn't performing well enough in the one area where it had a legitimate claim to pre-eminence - meeting local industrial needs. It certainly hasn't helped that there has been no national education policy-making or resourcing for the 16 to 19 age group to match the MSC training empire-building.

In all those circumstances it wasn't the least bit surprising that the reaction was both defensive and derisory when the first value-for-money teams marched in a year or so ago, apparently unable to tell the difference between a class-contact hour and a working week.

But it would be seriously to underestimate the

Commission not to accept that its auditors are smart enough to learn their way around the paths of the secret garden pretty quickly, once they have effected entry. As *The TES* preview of the report suggested last week, the question to ask may not be "have they got it right?", but "are they getting warmer?"

It has to be admitted that the simplified and improved report on the four areas originally singled out for improvement - marketing, academic staffing levels, cost recovery, non-teaching costs - still carries its quota of unacceptable accountant-speak.

Accepting at face value the assurance that "Auditors do not attempt to judge education quality or to challenge existing terms and conditions of service", that still has to be balanced against the identification of "lecturer productivity" as the major "value improvement opportunity". And, although it sounds eminently sensible to protest that they simply worked "on the basis that... the more time students can spend in front of teachers and the more students that can be taught, the better", there are some altogether more threatening throw-away lines in the flow-chart of VFM (value for money) projects: "avoid over-teaching"; "reduce (FTE) lecturers to minimum needed"; "provide adequate but not more than adequate technicians and administrative staff".

Both sides, evidently, can play at the professional jargon game. It is also necessary to adjust to the fact that the auditors do not wrap up their message in such bland codes as HM Inspectorate, work in different ways, and are in any case in search of good management rather than good teaching. But they do seem to have gone out of their way to balance cold cost-accounting techniques with a positive approach, and to search out - and find - good practice rather more vigorously than they have always been given credit for.

Very likely the Audit Commission is still getting some things wrong, and not always taking sufficient account of the flexibility that the system needs to respond to particular circumstances in different areas. It would be particularly interesting to be able to put HMI judgements on teaching quality alongside some management verdicts. But there is every reason to believe that the central thrust of the report's findings is correct. There is widespread waste and inefficiency in further education; there are restrictive working practices verging on the print world's "Mickey Mouse"; frustratingly rigid hierarchies, "under-teaching"; and often a built-in resistance to change that is all the more in need of a fresh eye if only because "we have been doing it that way for years".

The very beleaguered nature of further education makes it that much more important to look to

better management practices, a sharper eye for costs, and a commonsense approach to what recognizes the importance of selling courses to the right people.

It is, in fact, performing the best service to the education that the colleges offer to make the most of it, and to provide available money where it will produce the value for students, a more rewarding career for lecturers, and more appropriate courses.

The challenge that further education has been facing in recent years has already inspired development of an entrepreneurial spirit, more vigorous college principals, with the timing of course development and presentation that implies. This report will be disseminated some of their better ideas, and pushing some of the other colleges more into the market place. The tonic may be bracing for some, but it could be just what education needs if it is to keep education on an equal footing with training.

Predictably, the critics in the unions, colleges began sniping from behind even positions before the report was even published. How refreshing it would be if they took the good messages as well as the weaker ones, and concentrated more effort on working ways to use the auditors' verdict in order to strengthen the position of the colleges.

COMMENT

To him that hath

The designation of 30 Pathfinder inner London comprehensives marks the start of the three-stage, five-year development plan envisaged in last year's Hargreaves Report, *Improving Secondary Schools*. By the end of that period every one of the capital's 148 secondaries is expected to have been drawn into moves to break down exam courses into half termly units, each earning pupils a credit. At the same time they are to take steps to increase pupil involvement in learning, improve links with primaries and forge a partnership with parents, all in the cause of motivation and achievement.

One of Hargreaves' prerequisites for action - the "innovation exchange"

intended to act as a switchboard for new ideas - has, 15 months later, still to materialize. Nevertheless, it would be rather surprising if these first-phase moves got off to a flying start with the continued support of Dr Hargreaves, now ILEA's Chief Inspector, and given that the volunteers are likely to be the most enthusiastic and enterprising schools. Certainly that seems a fair description of Parliament Hill School (page 8).

Even at a time when teacher morale is low, there seems no shortage of schools willing to embark on radical changes when they sniff extra staff and equipment in the offering, as the Technical and Vocational Education Initiative has already shown. The ILEA has set aside £700,000 this year for INSET Schools as well as offering each Phase One school the equivalent of an extra teacher for planning purposes. At the

same time, subject inspectors are to devote substantial amounts of advisory time to unit credit development.

ILEA, of course, has never received any of the funds, though it has been asked for any, ostensibly because it preferred not to do anything to cut across its own Hargreaves Initiative. And unlike the treasures heaped on TVEI schools, the funding behind the Hargreaves plan is not additional money. It is simply diverted from within existing INSET budgets; the sort of shifting and sharpening of priorities advocated by Sir Keith Joseph rather than the manna from heaven approach of the MSC. And the result is, of course, that the extra for Phase One Hargreaves schools has been found at the expense of developments in the 120 or so other inner London comprehensives.

This unequal development was acknowledged in the Hargreaves report.

"All schools," it said, "can improve themselves but improvement is more likely where the schools want to do so and can build upon their previous experience and achievement." Either schools would get their chance later, however.

The proof of that will be in the later phases; as in all development projects, the crunch comes when attempts are made to extend the new approach to less committed schools. But clearly, if the plan continues to be funded out of existing budgets, the icing is likely to be spread rather thinner between the 60 or so schools in phases two and three, though by then many of the teaching problems of the new unit credits may have been thrashed out and there will be more experience to draw upon.

ILEA's own commitment to succeeding phases, and the continued energy and enthusiasm of its inspectors

and advisers when dealing with responsive schools, could make a break the authority-wide improvements hoped for. But at least ILEA has a complete plan for development unlike the TVEI which could prove to be something of a cut-dry when money dries up.

"Required September 1985 to teach English (Scale 1) to Teach English History and Integrated Science (GCSE); be involved in Multi-Coll resources and approach in English History; assist in coordinating the School History with the inner-city community (History in Punjab) and be involved in on-going curriculum development with middle schools." From the Hampshire Education Committee Register of Vacancies.

The big gap between the performances of boys and girls observed in the 1960s (the figures for 1965 were: Boys 9.5 per cent; Girls 6.6 per cent) was narrowing in the 1970s and had been closed by 1983. The boys' performance in 1983 was no better than it had been in 1971. The modest increase of 8 per cent in the proportion of leavers from maintained schools gaining two or more A levels that has occurred since the peak year of 1971 has been due entirely to girls making up lost ground and perhaps taking up their natural place slightly ahead of boys.

That the rapid expansion in the 1960s was expected to continue can be deduced from the DES "Education Planning Paper No 2, Student Numbers in Higher Education in England and Wales", 1970. In estimating student numbers in higher education in the 1980s its authors predicted that in 1981 there would be 171,900 school-leavers from all schools in England and Wales, including independents, with two or more A levels. The actual figure turned out to be 104,510 - indicating a massive shortfall. This dashed all the hopes of increasing the pool of ability in the 1970s and made a nonsense of the plans for higher education.

The attempt by Mr Radice and others to present recent trends in A

comprehensivization is hollow. The prehensivization is to be judged by these figures to be responsible for anything it is for the total collapse in fact level support to Sir Joseph's statement in the *Hargreaves* October 1981 that: "the simultaneous destruction of grammar schools and grammar day while comprehensives were built as near universally as Labour Governments found possible without any human terms."

There is no room for believing Sir Keith no longer holds this view which is no more than a common-sense view - that a mixed system based largely on parental preference would almost certainly have prevented the expansion of the 1960s to the 1970s and 1980s at a reduced rate. He does, however, appear to have scored an own goal permitting his civil servants to the present progress over the past 30 years and provide the opportunity Radice with a clear field.

Fred Naylor is a former school curriculum and examination officer.

Geraldine Hackett reports on education as a key issue in a vital by-election

Cash cuts sharpen poll debate

Education is forcing its way onto the agenda for the three candidates hoping to win the Brecon and Radnor seat. This week, one-third of the schools in the constituency were affected by the teachers' pay dispute. Cuts in the education budget of Powys County Council are biting into the provision of books and equipment and plans to build a new secondary school have been shelved.

The arrival of education on to the hustings is welcomed by both Liberal and Labour candidates, but provides sickly ground for the Conservative, Mr Chris Butler. He is a firm supporter of the Prime Minister and former political adviser to Mr Nicholas Edwards, the

Welsh Secretary of State. As yet, he has not openly condemned the £640,000 cut in education spending in the current financial year. At a public meeting, where he shared the platform with Home Secretary Leon Brittan, Mr Butler, speaking on another education issue, said he was in favour of stricter discipline in schools.

His rivals are far keener to campaign on the damage being done to education by the cuts. Richard Livsey, Liberal, has put out a statement condemning the decision not to go ahead with plans to build a new high school in Builth Wells.

Mr Livsey maintains that the school

population served by the present school is due to rise and that children will have to travel 17 miles to school in Llandrindod Wells.

Mr Butler countered that "The Liberal attempt to use Builth pupils as political pawns is beneath contempt."

For Labour's candidate, Richard Willey, education provides a sure platform. He is the only candidate with a son at school in the constituency, and he has spent the last 14 years involved in teacher training or education research. "Education is a major issue. People are deeply worried about the cuts," he said.

"In one school I visited, the parents are giving more than the allowance the school gets from the authority. Text-books are provided only where the parents can afford them. That means an end to equal opportunity," he said.

Both Mr Livsey and Mr Willey have expressed their support for the teachers' pay campaign.

Powys, the education authority which takes in Brecon and Radnor, has been badly affected by teachers' industrial action. Almost all the schools have been closed at some stage by strike action and further selective strike action is planned by the National Association of Schoolmasters/Union of Women Teachers next week.

The county council is dominated by independent councillors, and while they have expressed sympathy towards the teachers, they have not signed the model agreement drawn up by the National Union of Teachers.

The area's education director, Mr Robert Bevan, is concerned at the impact on education of budget cuts. The savings this year have been

achieved at the expense of reducing staff in the schools meals service. Some 25 to 30 teachers in primary schools and 14 in secondary schools have gone. Next year another £640,000 is to be cut from the budget.

"All the easy options have now been exhausted. Teachers' posts will have to be cut next year. How many will have to go, it is impossible to say," he said.

The NUT, which intends using the by-election as a focus for the teachers' pay campaign, estimates that at least 70 teacher posts are threatened next year.

The union's general secretary, Mr Fred Jarvis, was due to speak to teachers in the constituency on Wednesday.

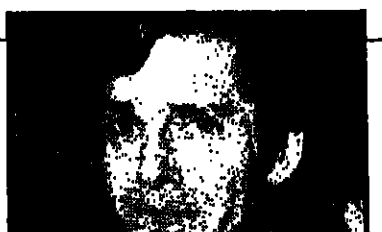
"We'll be asking for a meeting of the three candidates where teachers can put a series of questions on teachers' pay and the education service."

"We won't endorse any candidate, but we will provide our members with information on where the candidates stand in relation to education," said Mr Jarvis. "We will be making sure education figures prominently in the by-election."

This week's Mori poll put Labour eight points ahead of the Conservatives, with the Alliance in third place. But the poll also found that some 22 per cent of those questioned had yet to make up their minds.

● The Association of Polytechnic Teachers has written to the candidates asking for their views on the reduction of funding to the Polytechnic of Wales. This year the polytechnic will receive £1,937 per student, compared with an average figure for English polytechnics of £2,740.

Research background for Willey



Richard Willey, the Labour candidate in the Brecon and Radnor by-election, is a freelance education researcher and an expert in multicultural education. He is also the son of former Labour minister Fred Willey.

His recent work includes major research for the Schools Council study of 500 secondary schools in England and Wales published as studies in a multicultural curriculum. He is also the author of *Race, Equality and Schools*, the book unflatteringly reviewed in ILEA Contact as "a scathing and pasteurized account of the field".

Mr Willey (pictured), who has a Cambridge doctorate in history, worked in the education department of the Community Relations Commission in the early 1970s. After leaving the CRC, he spent 18 months in Australia, where he was a fellow at Australia Institute for Aboriginal Studies and also taught at the Armidale College of Advanced Education.

He has lived in Prestelgne in the Brecon and Radnor constituency since 1975.

Shutdown threat over HMI report

by Bert Lodge

One of the most damning reports made recently on a school by HM Inspectors has been followed by a warning to the owner to improve the school or risk its being closed.

The warning, in the form of a Notice of Complaint under the 1944 Education Act, has been served on a 75-pupil St Nicholas' Preparatory School, Erdington, Birmingham, founded 40 years ago by the present principal, Mrs Barbara Bryan.

The notice lists deficiencies which must be remedied within the next nine months.

Inspectors who visited the school towards the end of 1984, found none of the teachers, including the principal, was qualified. Classrooms were bleak and overcrowded, the curriculum too narrow, books in short supply and there was a general lack of equipment and of facilities. No schemes of work existed and no records were kept. Fees are £90 a term.

"Of particular concern are the eight pupils of secondary age who are being taught with junior-age pupils. These pupils are not experiencing a wide enough range of subjects to fit them suitably for their next stage of education," says the report.

At the same time the inspection found parents supportive. There is an active parent teachers' association.

Mrs Bryan said last week, "The report is very critical of the school and very unfair in my opinion. She plans to exercise her right of appeal against the notice to the Independent Schools Tribunal.

Although the principal and one other teacher have qualifications in

education, dance and music, none have followed a course of teacher training. The principal has been teaching for 50 years, 40 of them at St Nicholas.

Both the kindergarten, with 26 children, and the middle class, with 28, are in rooms which are only big enough for about 20 children. The classroom for the oldest 12 pupils should accommodate no more than 12, the inspectors say.

"The kindergarten and middle classrooms are dull, bleak uncarpeted rooms of gloomy aspect with black painted floors and lower walls and poor levels of lighting. . . The middle classroom is equipped with old double desks of varying size. . . they are in a poor state with many tops heavily scored. . . there is much clutter in the two hatted rooms. . . The lack of an interest table and home and book corners only adds to their bare and unattractive appearance."

Sanitary arrangements are not satisfactory. No proper facilities exist for teaching the older children science, craft or home economics. There is a severe shortage of reference and information books. Fiction is largely confined to one or two authors whose books are of limited use.

There is little evidence throughout the school of art work of any quality. Display is poor or non-existent and the resources inadequate. In English "despite a promising start made with the very earliest mechanical stages of reading, this school fails to provide a broadly based language development programme in all the areas of reading, writing, speaking and listening."

Pupil union lists demands

Pupils attending last weekend's foundation conference in Manchester of the School Students Union thanked the Militant Tendency for its help with last April's school strike.

Delegates voted in favour of trade union rights and of new for Youth

Training Scheme trainees and pledged support for the teachers' pay claim. They also voted for recognition by school authorities, representation with full voting rights on governing bodies, pupils' rights to see educational records and references on leaving.

Recall plan in Clwyd

by Mark Jackson

Peripatetic and advisory teachers will be drafted back into school posts as part of an emergency cuts package being considered by Clwyd education committee. The plan also includes a cut in nursery provision and youth clubs.

The county's teacher unions were this week trying to decide whether to accept the package as an alternative to an earlier proposal to cut 90 secondary and primary posts.

The council is determined to cut £1 million from the education budget following its realisation that its 3 per cent provision for a rise in the teacher pay bill is bound to be inadequate.

All teacher appointments have been frozen pending a decision as to how the interest table and home and book corners only adds to their bare and unattractive appearance."

Its main provisions are:

- Returning to classroom posts 30 peripatetic specialists in remedial, Welsh, music, and drama, and in educational technology.
- Lopping the initial term off the nursery year, and allowing children, who are present attend half-time every day, to go only on alternate weeks.
- Closing down all the county's part-time youth clubs. Under the plan, the nursery teachers would all be used as primary supply staff during the September term.

The National Association of Head Teachers has already refused to cooperate with the council over the earlier proposal to cut teacher numbers. This week their county secretary, Mr Margaret Morgan, said that the new package was simply another way of cutting back the teacher force.

Earlier this week a meeting of 400 parents from all over the county condemned the cuts and agreed that parent governors should campaign against them.

Honeyford memo sparks court threat

by Bert Lodge

The National Association of Head Teachers formally warned Bradford City Council this week that unless it pays a substantial sum in damages to Mr Ray Honeyford, the middle school head currently suspended after a race relations row, it will face an action for libel.

This follows a memo sent to certain council officers in March, signed by seven racial education advisers, giving their reasons why Mr Honeyford should not be allowed on one of the city's racial awareness courses.

In a letter to Mr Gordon Moore, Bradford chief executive, Mr David Hart, general secretary of the NAHT, says that counsel's advice is that the memo is clearly defamatory. He calls for a full retraction of the document together with an undertaking from Mr Moore that council employees will not repeat the offence. In addition, a substantial sum in damages must be paid to Mr Honeyford with his legal costs. Failure to meet these demands will mean a writ for libel will be issued against the council.

Mr Hart told the TES that negotiations were still continuing with the council towards a financial settlement of the dispute which began over a year ago when Mr Honeyford published an article in a small circulation magazine critical of some aspects of multi-racial education. A parents' campaign to have him removed from his post at Drummond Middle School, where 90 per cent of the pupils are Asian, was immediately started.

YTS job rate slumps

A new survey of Youth Training Scheme leavers shows that the numbers going into jobs or full-time education has fallen dramatically.

Only 49 per cent of a sample of October's leavers went into jobs, and a further 2 per cent into full-time education, the Youth Training Board was told this week.

Previous surveys have consistently

reported around 60 per cent of leavers getting jobs and around 4 per cent returning to education.

The survey, based on questions to 58,000 leavers, showed that nearly one in ten had gone on to another YTS scheme, but also revealed that more than 56 per cent had left the scheme prematurely, as compared with 37 per cent in July.

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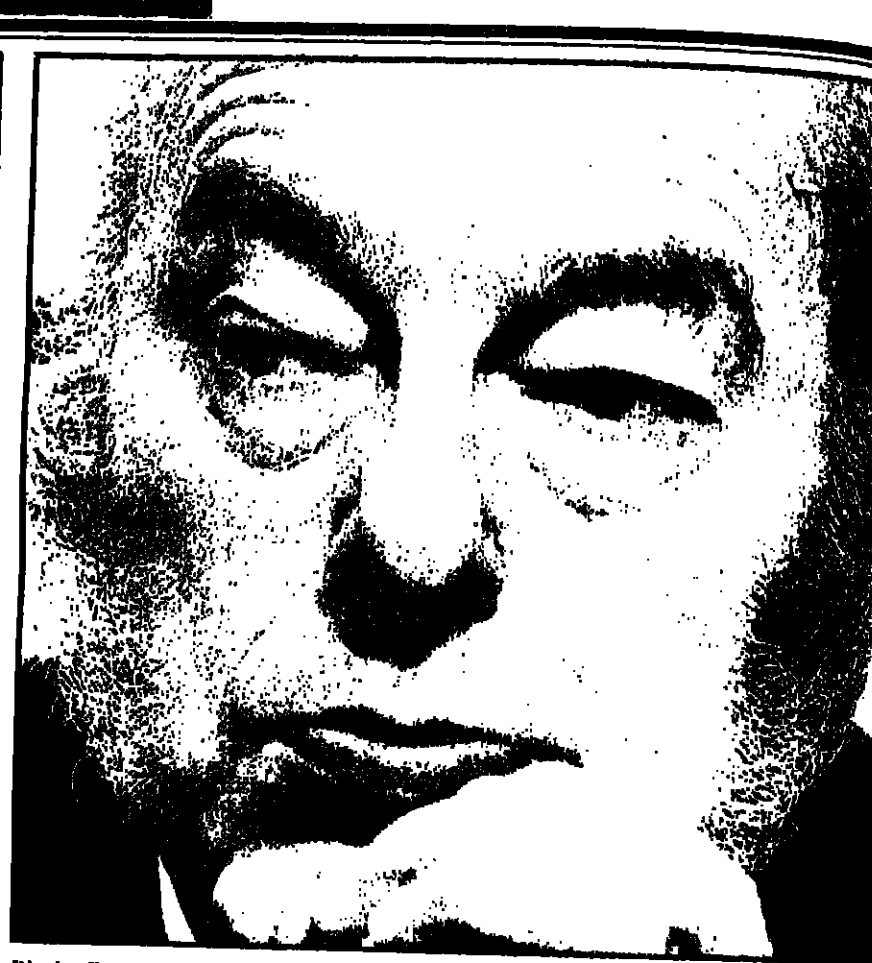
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Mary Warnock... sees danger in "single purpose"



Rhodes Boyson... called for a neutral stance



David Hart... appalling situation

There is growing pressure on the l.e.a.s to break the pay deadlock. Mike Durham reports

Lunchtime closures warning by heads

Headteachers this week increased their pressure on local education authorities to find a solution to the teachers' strikes and warned that schools might be forced to close down at lunchtime.

The 20,500-strong National Association of Head Teachers has launched a campaign to persuade l.e.a.s to give more support to heads, who have frequently had to carry out lunch-time duties single-handed during the teachers' action.

The action could lead to heads in some areas closing their schools down at lunchtime, probably from the beginning of next term, unless qualified help is available.

Meetings are to be held which could lead to schools being closed on a concerted basis. At the same time the NAHT is advising individual members to consider withdrawing their lunchtime support with immediate effect.

The NAHT general secretary, Mr David Hart, said authorities' refusal to provide support had resulted in an "appalling situation", with increased vandalism and truancy in schools.

Action by branches could lead to local ballots of members on the issue. Another option available might be to restrict the number of children taken in to schools.

Mr Hart said the action would "bring home to the l.e.a.s the fact that they have got to settle this dispute quickly."

"Sir Keith Joseph himself should not imagine he can get away with telling us we are good boys, and expect us to carry the education service. There is no substitute for a reasonable settlement of the teachers' claims."

The 8,400-strong Secondary Heads Association is offering support to members who feel they do not have enough staff to keep schools open at lunchtime.

General secretary Mr Peter Snape said: "Our members feel their lives are made intolerable by the lack of qualified support at lunchtime."

If heads are being expected to supervise without staff or ancillaries, we are recommending that they inform the l.e.a. that they cannot continue.

"They should tell the l.e.a. that the school should be closed over lunch. Enough is enough."

The SHA is to embark on a nationwide survey of the effects of the teachers' action on secondary schools and will launch a "major political campaign" on education funding in the autumn.

Liberal education spokesman Mr Clement Freud has appealed to head teachers "not to stoke up the teachers' pay dispute by making impossible deadlines for a settlement, or taking action themselves."

He said it would be counter-productive for heads to take action before the new membership of the Burnham management panel was settled.

Pay panel is urged to speed-up strike settlement with 'phased' offer

The stalemate in the teachers' pay dispute seems set to continue for at least another two to three weeks. Both sides are waiting to see if a revised offer will be forthcoming from a new Burnham management panel.

The composition - and possibly leadership - of the panel is due to be decided by July 4, following the local elections. This week there was pressure from teachers' leaders and Labour councillors for the procedure to be speeded up.

Labour members of Burnham's management side have called for the selection of new county representatives to be brought forward. They were also believed to be planning a new initiative based on proposals for an "end-loaded" or "phased" pay settlement.

At the same time the AMA has asked its education advisers to look in detail at "the implications of several alternative initiatives" which might be tabled at a future management panel meeting.

There are understood to be two main options. One is for a two-year "end-loaded" settlement which would offer the teachers an amount equivalent to about seven per cent over the period of time.

But this course would depend on management and unions being able to agree on a re-structuring of the teaching profession in principle by October, in line with the proposals put forward by Sir Keith Joseph last month.

The second option is for a straight-forward one-year deal, "phased" so that teachers were to be offered, say, five per cent backdated to last April, with six per cent in October and about seven and a half per cent in January.

The AMA leaders were this week seeking an urgent meeting with Sir Keith Joseph, in order to establish whether any "new money" would be available for teachers' pay to meet either of the alternatives.

According to some reports Sir Keith has secured an extra £100 million for teachers' pay next year, providing it is tied to restructuring and a plan for extra money for teachers of mathematics and science.

The overall sum would amount to an extra two and a half per cent on the teachers' pay bill. Teachers' leaders have already scotched the idea as "niggardly."

As the TES went to press the proposals were still being discussed by AMA leaders, and no date had been fixed for a meeting with Sir Keith.

Mr Fred Jarvis, the teachers' leader, also said this week that the management panel should meet before July 4. But the teachers are unlikely to try to requisition a full Burnham Committee meeting.

Mr Jarvis said: "What matters in terms of the present dispute is not only how the management panel will be composed, but what it will do and how quickly it will do it. The employers cannot afford a leisurely approach."

He reiterated the National Union of Teachers' readiness to make a joint approach with management to the Education Secretary, Sir Keith Joseph.

Both Labour and Conservative members of the Association of Metropolitan Authorities were expected this week formally to ask the ACC to short-circuit its selection process to the Burnham committee, following the election of the ACC education committee on Wednesday.

A report condemning the Government's scientific research policy has forced Sir Keith Joseph, the Education Secretary, on the defensive. Sir Keith said last week that he was "seriously worried" by evidence that scientists were leaving Britain. He ruled out immediate moves to stem the flow. Science spending had to be determined by economic performance, he insisted.

Sir Keith was commenting on a report from the Government's scientific advisers demanding an increase in the science budget of £85 million over the next three years, and supporting a University Grants Committee call for an extra £45 million to strengthen the science base in universities.

The Advisory Board for Research Councils' report forecast a cut of almost ten per cent in scientific research during the 1980s if the present decline in funding continued.

The ABC has warned that Britain will fall seriously behind in the development and application of new technologies if extra research funds are not provided. Within 20 years, "once

North Sea oil has been exhausted, Britain will depend on developing new exports."

While other countries are investing more in university research, the dearth of research opportunities in British universities is driving outstanding young scientists abroad, says the report.

In a letter to Sir Keith, Professor Sir David Phillips, the chairman of the ABC, accuses the Government of complacency, and challenges the idea that basic research is dispensable. Contrary to widespread belief, pure research is relevant to the "real world."

"Our future economic prosperity depends critically on investing adequately and effectively in the research which will produce technologies to be the basis of new industries," writes Professor Phillips.

MPs also said severe damage was being done to the scientific potential in schools. Mr Frank Dobson, Labour MP for Holford and St. Pancras, blamed the lack of resources in schools

for inadequate science lessons. And rate-capping was inhibiting authorities who were trying to recruit more girls into science.

Mr Patrick Thompson, Conservative MP for Norwich, asked Sir Keith if he was aware that there was only one applicant in the whole country applying to do a BEd course in physics, compared to 1,454 applicants for places on PE courses.

Dr Jeremy Bray, the Labour science spokesman, condemned the "anti-science brew", which, he claimed, was concocted by Sir Keith, by the Prime Minister, and Mr Nigel Lawson, the Chancellor.

Dr Bray described Sir Keith as an "aging guru, believing that whatever he cannot think out for himself is not knowledge." Mr Lawson was a "product of Oxford PPE from its slickest, most superficial and arrogant period" and Mrs Thatcher was a "second-class chemist, for whom science was merely a channel through which she could pass to the indulgence, of her political obsessions."

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Sir Keith defensive over science policy

by Susannah Kirkman

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Bring back the neutral chairman

It's ironic that there should be a clamour for teachers to deal impartially with political issues in the classroom as a safeguard against the Humanities Curriculum Project (HCP) achieved notoriety by suggesting that a stance of "neutrality" in the discussion of value issues was the only professionally viable position for teachers to adopt.

The crucial problem in handling complex human issues, as the HCP handbook points out, is that they are controversial. This means they will "divide students, parents and teachers because they involve an element of value judgement which prevents the issue being settled by evidence and experiment."

Anyone who thinks politics can be taken out of education must be simple-minded. No government spends large amounts of public money out of charity, or without taking an ideological view of what it expects from the investment. The present Government has been more open than most in expounding its educational agenda, and the principles on which it is based.

In the *School Curriculum* (1981), the Secretary of State recorded their "inescapable duty to satisfy themselves that the work of the schools... measures up to the whole range of national needs and also takes account of the range of local needs" (para 7). Later (para 21) it states that "what is taught in schools, and the way it is taught, must appropriately reflect fundamental values in our society."

Education is a heavily value-laden activity; but the values change over time, and it would be a bold person, (such as a politician) who would confidently draw up a list of the "fundamental values" on which there is a consensus.

One suspects that it would be rather short, on reflection. Exactly 100 years before HCP began work, Robert Lowe wrote (1867): "The lower classes ought

to be educated to discharge the duties cast upon them. They should also be educated that they may appreciate and defer to a higher authority when they meet it, and the higher classes ought to be educated in a very different manner in order that they may exhibit to the lower classes that higher education to which, if it were shown to them, they would bow down and defer."

That notion has survived down the century, although the language has become less crude - and less honest. Selection on the basis of appropriate academic education is incompatible with the rhetoric of democratic pluralism, which puts as its first aim (the *School Curriculum*, again): "To help pupils to develop lively, enquiring minds, the ability to question and argue rationally, and to apply them to tasks, and physical skills" (para 11).

Of course, within any form of society, there are certain basic values which set criteria for behaviour, and inform the framework for the education system. In an early article on HCP in the *Schools Council's* magazine *Dialogue*, Lawrence Stenhouse acknowledged "the teacher, though he be neutral on controversial issues, has, as an educator, a responsibility to foster rationality rather than irrationality, sensitivity rather than insensitivity, imagination rather than unimaginativeness, tolerance rather than intolerance. He must also help students to see that standards of critical judgement are important."

Mary Warnock. In her article on *Education and Indoctrination* (TES, June 7) underlines the danger in education institutions being pushed towards a "single purpose": "Indoctrination wants education to be used as a means to social revolution; the new philosophy thinks of it as a tool for productivity. Educational autonomy and internal values are treated with equal derision by both parties."

It was Mary Warnock's committee which looked at special needs and which gave that excellent summary of the aims of education. "First to enlarge a child's knowledge, experience and imaginative understanding, and thus his (or her) awareness of moral values and capacity for enjoyment; and secondly to enable him (or her) to enter the world after formal education society and as an active participant in it, capable of achieving as much independence as possible."

One cannot achieve independent understanding which would allow for active and responsible participation if one has been indoctrinated by authority into compliance. Schools, and their teachers, are invested with authority. But there is a key difference between being in authority, and an authority. There are many subject experts; who are the authoritative experts on morality, political action, justice? Churchmen, politicians, lawyers are divided among themselves on all the great issues of our (or any) time. How should teachers be authorities on controversial value issues?

HCP set out three possible positions which teachers might adopt when discussing value issues:

1. A school might attempt to lay down a line to be followed by all teachers. This does not seem practicable. It would be impossible to achieve consensus on all the issues involved, and to adopt a majority decision would be to involve those teachers in the over-ruled minority in a systematic hypocrisy. Nor is it clear how the position of the school could be justified to parents who disagreed with the majority line.
2. Each teacher might be held free to give his or her own sincerely held point of view. At first, this appears a much more attractive and acceptable principle, but our own observations and other research findings suggest that the inescapable authority position of the teachers in the classroom is such that his or her view will be given an undue emphasis and regard which will seriously limit the range of views that can be considered. It is difficult to achieve teaching which

charge that they are attempting to use their position of authority and privilege as a platform from which to propagate their own views. Moreover, this view was taken, would necessarily have to commit itself to defending any teacher who urged any view on students so long as that view was sincerely held. For example, teachers who advocated total sexual licence or war as a means of developing masculine qualities would have to be supported by their colleagues. This position seems untenable in practice (One might add that it would almost certainly be unacceptable to many parents, and could lead to "setting" of prospective teachers).

3. In teaching controversial issues, precisely because they are aware of the bias of their own commitment, they might attempt to adopt the convention of procedural neutrality in classroom discussion. As students often put it, the teachers may agree not to take sides in their discussion. Even within such a convention, teachers can, of course, never achieve complete neutrality. The important point is that they accept neutrality as a criterion by which to criticize their performance, and explain this - and the reasons for it - to their students.

This last position seemed to the Humanities Project team the only tenable one. And, all these years after it was attacked as both unworkable and undesirable, it is now being championed by unlikely sources. (Dr Rhodes Boyson, when junior minister of education, several times spoke of the need for teachers to adopt a neutral stance). But because the present motivation is caused largely by an anxiety that the "wrong" views will be propagated, we must not be misled into thinking that "neutrality" will avoid indoctrination of a more insidious kind.

Impartiality might appear to endorse the status quo, and thus implicitly support a system which is essentially divisive and unequal. The post-war education Acts (1918 and 1944) recognized an increased feeling of social war, and which needed to be reflected in the apparatus of our social institutions.

In his speech on the 1918 Education Act, the President of the Board of Education, H.A.L. Fisher, said:

"When you get a state of affairs which the poor are asked to pay their blood and to be made high cost of living for larger and larger numbers of people, it is not surprising that they should desire an extension of franchise points also to an extension of education."

In a lecture given six months before the HCP in the 1980s, Lawrence Stenhouse is alive of literacy as a gate which people use to the means of thinking themselves, and becoming critical of our society. But is this critical thinking to be the privilege of an educational oligarchy? Is it stifled in the state system? Our view of public education is not that it is the power of those who do not commit their own children to it and accordingly vulnerable.

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PRIMARY

Sarah Bayliss reports on a successful Lancashire scheme to help staff spread their skills

A break from the daily round

A pilot scheme in Lancashire which gives primary teachers time to develop and share their curriculum expertise is about to enter its third year.

The project's main aim has been to give primary teachers a break from spending all day, every day, teaching their own class.

The formula is simple - schools are provided with regular supply cover for between half a day and one-and-a-half days a week, depending on the size of school.

Schools must use this extra staffing only to release teachers from their classrooms so they can develop and coordinate work in their subject areas.

"Unless you make a very determined effort to spread expertise, it stays with teachers and with their classes," says Mrs Janis Burdin, head of Moss Side county primary school in Leyland - one of the 300 or so schools to have benefited so far.

The scheme has its roots in the HMI primary survey of 1978 which found that in one quarter of schools, teachers with positions of curriculum responsibility were having a positive influence on standards and expectations.

Inspectors were disappointed to find that most teachers with special posts had little effect on the quality of work throughout the school. They wrote: "Consideration needs to be given to improving their standing, which is the product of the ways in which the teachers with special posts regard themselves, and also of the attitudes that other teachers have towards them."

In Lancashire, the advisory service and a group of 75 heads acted on HMI's findings by devising curriculum

policies for their schools with job descriptions for each member of staff.

As a result, many teachers began to see themselves as curriculum coordinators or consultants even where they were Scale 1 teachers without special salaries.

In 1983, the authority recognized that while curriculum expertise was spreading, teachers were severely handicapped by their lack of "free" time within the school day.

Mr Ken Theaker, county adviser for primary education, says: "There are certain key aspects of the job which can only be done in school time - therefore the teachers' cry about not having time is a valid one. Sometimes you've got to work alongside other teachers with the children around. If there's no one to take your class, it just can't happen."

So the system of supply cover for curriculum coordination was devised and the education committee agreed to pilot it in one-quarter of all schools for one year at a cost of around £270,000.

The popularity of the scheme among teachers - some of whom describe it as the most enlightened thing the authority has ever done - resulted in it being funded for a further two years. Come September, three-quarters of all the county's primary schools will have experienced the scheme.

"Ultimately, we would like all schools to benefit for all of the time," says Mr Ralph McMullen, Lancashire's senior adviser for primary.

Close monitoring by the local authority reveals a total of four "most valuable" activities, from the teachers' point of view. These are: working alongside colleagues in the classroom,



Cathy Greenlees has used some of her time to attend an in-service course.

staff discussions on subject areas, visits to other schools and agencies, centralizing and organizing of resources.

Other fruitful activities have been: involving parents in school, reviewing curriculum areas, devising programmes for the extremes of ability, and communicating ideas. In small schools, there have been particular benefits for teaching heads who have been free to teach and observe classes other than their own.

Moss Side primary opened just three years ago and was included in the scheme this year.

Mrs Burdin felt it was vital to spread the curriculum time between all seven staff who were developing the school's curriculum together. She feels strongly that all too often, teachers become isolated within their own classes.

"This is the only profession which expects you to be as good on your first day as the teacher who has done it for 30 years. Unless you've got a sympathetic head - or a scheme like this one - you may never get to see what the more experienced teachers are doing."

Miss Alison Hopkins, a 29-year-old Scale 1 teacher who formerly worked for the Wildlife Trust, used her allocation of one free morning a week to explore and map the local area, making a nature trail and developing environmental studies for the school.

Ms Cathy Greenlees, a 26-year-old graduate in music, has used some of her time to attend an in-service course. She has also been able to organize the resources for music and check the stock of musical instruments.

She ordered new instruments for the school and plan to do much more for music in the school," she says.

During the year, the school received a new computer. Mr Robert Owens, the deputy head, ran two staff meetings to explain the basics and then, using his curriculum time, worked his way through every class in the school, familiarizing teachers and pupils with

the machine.

Another strategy has been to build up the skills of a core group in every class so that routine problems can be dealt with by the children themselves rather than taking up the class teacher's valuable time. "It pays enormous dividends to have a group of children who are very keen and expert who can sort out routine problems," he said.

A large stock of programs is currently being catalogued and reviewed by the children and Mr Owens to sift out the most useful ones for classes to use.

He believes the policy of working alongside teachers in the classroom has made the computer far less daunting and much more accessible. "By doing it that way, we've made sure that it does not get put in the quiet room and ignored. Staff are pleased when it's their day - once a week - to have the computer."

Janis Burdin emphasizes that all her staff were appointed because they were good primary practitioners and that their specialisms were secondary to that. But she believes the scheme gives helpful recognition to the growing complexity of the primary curriculum. "The fact is that no single teacher can be totally informed on all areas. You've got to have a breakdown of jobs to be done within a school."

At Skerton primary school in Lancashire, there is a high proportion of children from low income homes and of about 50 children from travellers' families. Last year when the school was given three half-days of supply cover for curriculum coordination, one priority was to develop music, another was to explore the needs of travellers' children.

Ms Jean Birtwistle has a Scale 2 post and responsibility for topic work and travellers' children. Developing materials and resources were her priorities. She feels strongly that a child who is learning to read shouldn't also be expected to cope with foreign words

and an alien way of life "such as going upstairs to bed". So she has spent many hours developing texts, using vocabulary which will be familiar - trailers, lorries, cresses, colours, animals.

She has also explored resource outside the school - visiting museums and educational places.

One of the topics resourced by Mr Birtwistle is "Our School" which includes - if the class teacher wishes - a visit to a reconstructed Victorian schoolroom in a local museum, complete with slates and high-topper desks. She has made a set of 4 costumes which children can wear to the surroundings.

Mr Paul Capell is the music coordinator at Skerton. He used his extra time to concentrate on the needs of particular children. The school band, whose rehearsals must otherwise be squeezed into the lunch-hour - is given more tuition and children learn particular instruments had can practice time with Mr Capell.

One of the bones of the scheme emphasized by Ken Bell, the music coordinator at Skerton, and repeated elsewhere, is that the supply teacher comes regularly and can be relied on to have a clear programme of work. Skerton's case, the supply teacher was an expert in science so the children benefited from that expertise.

Caton village primary school, like Skerton, took advantage of the scheme last year and its head, Tony Roberts, feels the progress made in short time has had a lasting effect.

The most profound effect was in language. The deputy head brought the language resources together, encouraged them and made sure that each member of the staff was aware of what the resources were and where they were held.

Every child, from the top infant upwards, was then tested and all those with a reading age nine months below their real age was given extra help. This was in addition to the existing remedial programme. Shelving was installed by the head and with parent help £120 worth of books was bought.

"We are now extending the language work into a home reading scheme," says Mr Roberts. "All this would have been done eventually but it would have taken much longer. We worked much faster and more efficiently with this impetus."

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NEWS

Confusion over low rate

by Hilary Wilce

The decision by Liverpool city council to fix a rate that will not cover planned spending has taken the city, and its education service, into uncharted legal waters.

Observers this week were willing to hazard guesses about what might happen, but no one had any idea when moves would be made, or what the outcome would be.

Liverpool is the only education authority still actively defying the Government's rate-capping legislation.

Last Friday, the Labour council voted to set a 9 per cent rate. But this will only finance £236 million of the £265 million budget.

The chief education officer, Mr Kenneth Antcliffe, said, "A rate has been agreed but no detailed budget has been prepared. I'm taking it to mean that we continue to spend at 1984-85 levels of expenditure, updated for inflation."

"I suppose we'll just soldier on. It's anyone's guess what will happen. We have known deficit budgeting before."

that doesn't mean we couldn't work on such a budget."

Mr Antcliffe said he presumed that spending controls placed on non-essential items (TES June 14) at a time when no rate was set would now no longer apply.

Councillors are already threatened by action by the district auditor over losses incurred by the delay in setting a rate. Mr John Hamilton, leader of the council, said "We have to face the possibility of going to prison."

Mr Mike Storey, Liberal education spokesman, said: "The most worrying prospect is what happens when the money does run out, or expenditure is allowed to get totally out of control. Someone will have to sort the finances out, and the longer it is left the more difficult it is going to be."

Either the district auditor or a ratepayer, or a ratepayers' organization, could challenge the rate in court. The court could then order the council to levy a rate high enough to cover expenditure - a move which really

the Liverpool branch of the National Union of Teachers, said this week. "And that is when we will see whether the unions deliver their support or not."

Liverpool NUT this week suspended its membership of the joint committee of local authority unions. The committee has called on unions to pledge their backing of the rebel council with a promise of indefinite all-out strike action.

It has also called on teachers to withdraw pending court action against the council for its refusal to pay teachers who turned up to work on a "day of action" in support of the council in March.

"The politics and direction of the committee are now enormously at odds with the politics and direction of our members. It is passing resolutions we cannot even put to them," Mr Ferguson said.

The teachers' case against the council will be heard in the High Court on July 10.

"We have got to get the principle of this straight," Mr Ferguson said. "It's not a question of whether we can afford to do it or not."

OUR THIRD YEAR PROGRAMME
SPRING '86 to SPRING '87

66 I know that both children and party leaders will look back on the cruise as one of the memorable experiences of their lives. 99

A PARTY LEADER

WHAT YOU SAID ABOUT OUR EDUCATIONAL CRUISES

From two young students

Just recently I went on the Neptunia on a Mediterranean cruise. I just thought it would be nice to let you know that I thoroughly enjoyed myself during those twelve days I was away. The Schools Abroad team were very kind to us and I found that the Greek crew were also nice. The cruise was well worth the money. I was quite saddened to leave. I hope that everybody who boards the ship in the future has as good a holiday as I did.

S. YOUNG (AGE 13)
12 SOMERHILL ROAD, WELLING, KENT

We would like to thank you very much for the super cruise we enjoyed with you on 'Neptunia'. We all had a wonderful time and thank you very much for taking care of us. I wish I could come again next year!

JANE SANKEY
THE PRIMARY SCHOOL, KINGTON, HEREFORDSHIRE

From a small selection of party leaders

I have just returned from Neptunia on the above cruise and I must write to congratulate you and your team on a thoroughly excellent experience. My party and I thoroughly enjoyed the whole cruise. It proved to be a trip of a life time to them and the way that life was arranged on board Neptunia was a credit to the hard working Schools Abroad team!

David Baskott's leadership and lecturing were beyond compare and his dynamism and commitment infected the whole operation and made it work; work not just well but far better than Uganda. The great strength of Neptunia is that she is first and foremost the children's ship and because of that, I think they got a much better deal than under the old regime. From the party leader's point of view I enjoyed Neptunia much more as there was a great sense of unity among the party leaders who were able to relax in the evening without trying to lead the double life of party leader and cabin passenger on a cruise liner!

My party also greatly enjoyed the entertainments laid on for them on the ship and the videos and the discos were extremely popular with everyone.

I could go on... In short I am an highly satisfied customer who is totally committed to Neptunia and all she floats for.

NIGEL ARCHDALE
THE EDINBURGH ACADEMY, EDINBURGH

Cruise 502 was excellent - the trips were all superb, guides the best we have had, and David Baskott's lectures and organisation marvellous as usual. We all enjoyed it very much indeed. I would like to ensure that a similar number of places (80) is available for us in 1987.

THE WALLINGTON HIGH SCHOOL FOR BOYS, WALLINGTON, SURREY

The cruise was greatly enjoyed by us all and the girls have not stopped recounting their adventures to their classmates since our return to school! Educationally they gained a tremendous amount from the trip and they thoroughly enjoyed it as a holiday experience too. You have clearly worked hard to make a success of the Neptunia and your efforts are appreciated by the members of the school fortunate enough to be able to enjoy the restarting of school cruising. We will be back on board for next year's cruise.

HABERDASHERS' AKE'S SCHOOL FOR GIRLS, ELSTREE, HERTS.

Thanks to all concerned, for the splendid itinerary and organisation. The pupils have returned with life-long memories and fond thoughts of the Neptunia - despite a force 11 gale one night! Thank you once again for providing such a rewarding experience for our pupils.

BRENDA NICHOLL
SECOND DEPUTY HEAD, ST. MARTIN'S SCHOOL, BRENTWOOD, ESSEX

I returned yesterday from Cruise 502. We had an excellent time (despite the Force 11 storm in the Aegean) and I was impressed both with the Neptunia itself and the organisation on board. The school wishes to book for another cruise.

P. WILLIAMS
DEPUTY HEAD, WELLING SCHOOL, WELLING, KENT.

Thank you very much for all that you did to make Cruise 502 such a valuable and memorable experience for the Leasingham School party. The children will never forget their time on the Neptunia, and I am already receiving enquiries from parents of the next group of prospective travellers.

Many favourable comments have been made by parents and they are looking forward to our final meeting next week when an account of the journey will be given and all the photographs, souvenirs etc. are produced by the proud owners. HAZEL EDWARDS
LEASINGHAM CE (CONTROLLED) PRIMARY SCHOOL, LEASINGHAM, SLEAFORD, Lincs.

A brief note to thank you again for working so hard with us and for us to make our 1985 cruise a success. We all greatly enjoyed our eleven days on Neptunia and I know that both children and party leaders will look back on the cruise as one of the memorable experiences of their lives.

We are very appreciative of your efforts, and those of the ship's Captain, his officers and crew, their friendliness and co-operation account of the journey will be given and all the photographs, souvenirs etc. are produced by the proud owners. DAVID WILLIAMSON
AREA EDUCATION OFFICER, WILTSHIRE COUNTY COUNCIL, SWINDON, WILTSHIRE.

I wish to thank you for having such a first class medical team on board the Neptunia. Dr. Hargreaves and his wife and the nursing sister looked after children with unfailing care. The Guiding in Ports was usually pitched very well for all ages. MARGARET HILL
HARDEN-HUISSH SCHOOL, CHIPPENHAM, WILTSHIRE.

Just a note to say how much we - pupils and party leaders enjoyed Cruise 505. We found, mainly due to your enthusiasm and masterly organisation, that it was a very worthwhile project and educational in so many ways. I hope that Educational Cruising will continue and that we as a school will be able to participate again!

MARGARET HOWARD
DEPUTY HEADMISTRESS, PARKLANDS HIGH SCHOOL, CHORLEY, LANCs.

Our cruise was a real "once in a lifetime chance" and I know that none of us is likely to forget it. I thought the students' food was good. Congratulations must go to the Schools Abroad team for their excellent organisation and tireless work. All our students found it an unforgettable experience which they greatly enjoyed. None of them wanted the experience to end and claiming it to be "magic".

Having just returned from Cruise 406 with an LEA party, I would find it all say how delighted I am and this is shared by all the other staff who were in on the party, that Schools Abroad has revived the possibility of Educational Cruising and we very much hope that the Educational world will quickly give full support to this magnificent educational opportunity. We found the cruise highly enjoyable, educationally rewarding and a very happy experience for staff and students.

ASSISTANT DIRECTOR OF EDUCATION, COUNTY OF SOUTH GLAMORGAN
EDUCATION OFFICES, KINGSWAY, CARDIFF.

Having just finished my first experience of a school cruise - but hopefully by no means last - it has been my intention for some time now to write a few words. I would like to express my great admiration for the efficiency with which the Schools Abroad team organised and ran all proceedings, disembarkations, coach allocations, embarkations and entertainments which all ran with the military precision of a large scale operation. It certainly made my life as a party leader infinitely more relaxing than I ever anticipated.

FRANCIS GOTTESMAN
EDGEBOROUGH SCHOOL, FRENCHAM, SURREY.

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NEWS

NEWS

Susannah Kirkman looks at how inner London schools are implementing the recommendations of the Hargreaves Report



The school council discusses the curriculum

When pupils expect teachers to answer

Wide-ranging reforms are taking place in inner London's secondary schools as they begin to implement the Hargreaves Report, *Improving secondary schools*.

About 30 schools – known as Phase 1 – form the vanguard. They have all volunteered to try out the Hargreaves innovations, which range from greater autonomy for pupils to new methods of assessment.

A school council of pupils at Parliament Hill – a girls' school in north London and one of the Phase 1 schools – now discusses and votes on such things as the curriculum, and the school uniform which pupils agreed recently to keep.

After pupils expressed concern at the introduction of just one class, Mrs Healy, the head of maths was summoned to a council meeting and asked to explain the system.

The teachers' pay dispute has also come under scrutiny. Two NUT members were invited to present the case for the strike at a recent council meeting. Council members pointed out that many parents were getting fed up with the action; some pupils felt that teachers were not making enough effort to explain their position.

There has been a school council for some time, but the Hargreaves Report, first published in March 1984, has pushed for students' involvement in all aspects of school life, not simply in trivial areas.

"The council discussions are getting more mature. We don't just talk about whether we should be allowed to wear nail varnish," commented 15-year-old Lydia Michael, one of the lively and articulate fourth-year reps.

"We're selling students short if we exclude them from the curriculum debate," explained Ms Moura Healy, Parliament Hill's head teacher. "If we can't explain the curriculum to them, we're to blame," she said.

Ms Healy believes that girls in particular need the experience of being listened to and taken seriously. And she is looking into the future. If students are treated as passive recipients now, it will be hard for them to play an active role in the education of their own children later.

There are also plans to make the

school more accessible to the present generation of parents. Working closely with pupils' homes should be "at the heart of any attempts to reduce underachievement and disaffection", the Hargreaves Report insists.

The school has experimented with a new form of parents' evening, where parents have the chance of a lengthy conversation with their child's form tutor rather than a series of superficial chats with subject teachers. A canteen was provided and food was served, making the evening more of a social event.

When the next first-year intake arrives in September, there are plans to invite the whole family to a special assembly, followed by coffee in the form room. "The first day at secondary school is at least as traumatic for parents as their child starting primary school. They're often unable to visualise what their child can be doing in that vast, impersonal building," Ms Healy said.

The building itself can be very intimidating for visiting parents. The extra resources allocated to Phase 1 schools will allow Parliament Hill to convert its cold, forbidding entrance hall, part of the 80-year-old grammar school building, into a bright reception and waiting area, constantly manned by pupils or staff.

Another important innovation is the unit credit scheme, which aims to motivate pupils by breaking up syllabuses into half-termly, self-contained "units", each of which has clear objectives. "Unit credits" will record pupils' progress in each module, and will take into account their motivation and achievements in personal, practical and oral, as well as academic skills. Discussion between teacher and pupil about goals and assessment also plays an important part in the new system. At Parliament Hill, unit credits are being developed for fourth and fifth year courses in art, English, maths, PE and French. And the computing and business studies staff are piloting a new GCSE course in information technology with office studies which will use the unit credit system.

Dividing courses into discrete units is obviously easier for some subjects than others. The art department plans



Moura Healy: time to listen

to include painting, three-dimensional work and design in its list of units, and staff are enthusiastic about the chance to learn from each other's experience in different media as they plan the units together.

Modern languages teachers are already familiar with the principles behind unit credits through graded tests although, like the PE staff, they fear that assessment of the development of skills across discrete units will pose problems.

And the English department rejects the idea of splitting the subject into discrete stages, with half-termly grades, however much the teachers support the ideas of shorter-term goals and self-assessment by their pupils.

Subject inspectors of the Inner London Education Authority are supposed to be on hand to guide the teachers, but some have complained of feeling isolated. An "Innovation Exchange" to link teachers from different Phase 1 schools is to be launched in September, and may help schools to pool their experience. It will be organized by local teachers' centres.

Another problem for teachers is coordinating unit credits with other recent developments in assessment, such as records of achievement and GCSE. "We're trying to tie in about 15 different strands at once," one French teacher commented.

Despite all the other innovations, and the strike, the teachers' enthusiasm remains undiminished, according to Mr Roderick Floud, assistant chairman to the school governors. Even with all the difficulties and extra demands upon their time, and in the middle of a pay dispute, teachers seem prepared to take on this heavy commitment.

Ms Healy explains that her staff would not have committed themselves without the promise of adequate resources and teacher time. As meetings cannot be held after school, the ILEA provides enough extra cover for teachers involved to meet and plan during school time. There will also be cover for teachers attending in-service training courses on the Hargreaves initiatives. Cash is available for extra resources and equipment.

But teachers also have confidence in the quality of the report, according to Ms Healy. They value its attempt to redress the underachievement of many of their pupils. And they welcome the legitimization and resourcing of many things their school was already doing.

Education likely to suffer from 4% drop in spending

by Mike Durham

Spending on local authority services, including education, is set to drop in real terms by four per cent this year, according to new statistics issued this week.

At the same time, domestic ratepayers face an average increase of nine per cent – well above the rate of inflation. The level of government rate support grant has continued to fall.

The survey, by the Chartered Institute of Public Finance and Accountancy (CIPFA), amounts to a league table of councils' rates and spending this year.

It reveals that, in cash terms, the level of town hall spending on all services will increase by 2.9 per cent during the current financial year. But with the rate of inflation at 6.9 per cent, this is equivalent to a four per cent real terms reduction.

Local authorities will spend an average £536 per head of population, £312 of that on education, which is the biggest single item of expenditure in most county and metropolitan district budgets.

The surveys show a continued marked difference in spending between metropolitan areas, especially London, and the shire counties.

This year education authorities in London are expected to spend an average of £271 per head, compared to £227 in other metropolitan areas, and only £193 in the shire counties.

A regional analysis shows that East Anglia is the lowest spending area on education per head of population, with the South West and the South East outside London also coming low down the list.

The highest spending individual L.E.A.s in terms of the amount per head are the ILEA (£371 per head), the London Boroughs of Barking (£338) and Kingston (£310) and Wolverhampton (£289).

The lowest spenders per head are West Sussex (£152), followed by Surrey (£160), East Sussex (£164) and Richmond-on-Thames (£162).

CIPFA says that a quarter of all local authorities are likely to incur government grant penalties this year because of overspending, and calls for a new grant system to replace the present structure.

"The grant system has become more of a mechanism for constraining expenditure, rather than a means of distributing grant to equate for differences and needs and resources at the local authority level," CIPFA says. "The increasing complexity of the system of control, and the results which it produces in the way of grant distribution lies at the heart of the government's present dilemma about reforming the system of local government finance."

"Whilst debate at present seems to be concentrating on alternatives to the rating system, the Institute believes that equal priority must be given to developing a new grant system."

The highest rate rises and biggest spending increases this year were in "rate-capped" local authorities, including Haringey, according to an analysis of the CIPFA figures by the *Local Government Chronicle*.

The statistics appear to make a nonsense of the government's rate-capping legislation, which was designed to hold rates down and enforce spending cuts.

The most "overspent" authority is the London Borough of Haringey, which will exceed its government spending target by nearly 16 per cent and incur heavy penalties.

Homework plea

More research is needed into homework, says the Socialist Educational Association in its response to the DES consultative document on homework.

Local authority expenditure and income per head of population 1985-86 (Q) Current expenditure for education (November 1984 prices)

ILEA

301

Outer London boroughs
Barking & Dagenham 3281
Barnet 1821
Bexley 1981
Brent 2879
Bromley 1763
Croydon 2011
Ealing 2251
Enfield 1881
Haringey 2881
Harrow 2035
Havering 2035
Hillingdon 1871
Hounslow 2471
Kingston-upon-Thames 3101
Merton 1801
Newham 1723
Redbridge 1824
Richmond-upon-Thames 1741
Sutton 2471
Waltham Forest 2471

Metropolitan districts

Bolton 2139
Bury 1808
Doncaster 2221
Huddersfield 2021
Oldham 2149
Rochdale 1821
Salford 2041
Stockport 1771
Tameside 2221
Trafford 2428
Wigan 2428
Knowsley 2428
Liverpool 2428
St Helens 1781
Salford 2428
Wirral 1831
Barnesley 1841
Doncaster 2221
Rotherham 2428
Sheffield 1801
Gateshead 2821
Newcastle-upon-Tyne 2221
North Tyneside 2221
South Tyneside 2221
Sunderland 2221
Birmingham 2221
Cardiff 2221
Dudley 2221
Sandwell 2221
Solihull 2221
Walsley 2221
Wolverhampton 2221
Bradford 2221
Calderdale 2221
Kirklees 2221
Leeds 2221
Wakefield 2221

English counties

Avon 203.82
Bedfordshire 210.38
Berkshire 185.28
Buckinghamshire 185.28
Cambridgeshire 185.28
Cheshire 242.81
Cleveland 242.81
Cornwall 242.81
Cumbria 242.81
Derbyshire 242.81
Devon 242.81
Dorset 242.81
Durham 242.81
East Sussex 242.81
Essex 242.81
Gloucestershire 242.81
Hampshire 242.81
Hereford & Worcester 242.81
Hertfordshire 242.81
Humberdale 242.81
Isle of Wight 242.81
Kent 242.81
Lancashire 242.81
Leicestershire 242.81
Lincolnshire 242.81
Norfolk 242.81
Northamptonshire 242.81
Northumberland 242.81
North Yorkshire 242.81
Nottinghamshire 242.81
Oxfordshire 242.81
Shropshire 242.81
Somerset 242.81
Staffordshire 242.81
Suffolk 242.81
Surrey 242.81
Warwickshire 242.81
West Sussex 242.81
Wiltshire 242.81

Welsh counties

Clwyd 217.50
Dyfed 204.48
Gwent 228.71
Gwynedd 228.71
Mid-Glamorgan 228.71
Powys 241.47
South-Glamorgan 228.71
West-Glamorgan 228.71

The London Borough of Brent will exceed its spending target by 7 per cent. But both "rate-capped" authorities managed to keep their rates rises within the government-imposed limit.

The largest average rate rise was in Birmingham (32 per cent) with Kirklees, Salford and the London Boroughs of Newham, Hillingdon and Hounslow also showing big increases.

The magazine says rate capping has been shown to be "a relatively flimsy weapon in its first year".

NAHT calls for standard 16-18 maintenance

by Bert Lodge

A standard maintenance allowance for all young people between the ages of 16 and 18 who are engaged in education or training was called for this week by the National Association of Head Teachers.

In a policy statement on education for the 14-18s supporting a request to Lord Young, Minister without portfolio, for a meeting on the subject, the association also warns the Government that no expansion of the Assisted Places scheme should be contemplated in catering for this age group.

Nor must there be any distinction between those who can pay and those who can't. "We must in no way contemplate the stratification of young people beyond the age of 14 into different educational institutions for economic rather than educational reasons."

While recognizing that the distinction between education and training will continue to remain, and that some students will study more of one than the other, the NAHT stresses that no student should pursue a programme that consists solely of one element to the exclusion of the other.

In the letter to Lord Young, the association notes with satisfaction that the resolution at its annual conference last month on the 14-18 age range has focused attention on the subject.

"The age range we must now consider as a unit is 14-18. It is wasteful to plan one kind of educational provision to begin at 14 and stop at 16 with little

sense of preparation or continuity for what follows at 16."

In the interests of equality of esteem, now that jobs are hard to get, a uniform state allowance must start at 16, and cover all forms of education and training up to 18.

Mr David Hart, general secretary, said this week that among members of his association in the secondary sector there was a distinct feeling that if the Government had its way it might be tempted to divert the more academic pupils into the independent sector through the Assisted Places scheme.

"So we are putting down a marker. The Government should not contemplate putting the academic child into the private sector and the non-academic into the maintained sector."

The NAHT working party on education and training will produce shortly a full document on all aspects of 14-18 education.

Arts places announcement

More than 2,000 arts and humanities places would have to be taken out of higher education to increase the outflow of science and engineering graduates by 1 per cent within existing constraints, Sir Keith Joseph, the Secretary of State, told the House of Commons last week.

FE goes to market

by Diane Spencer

Further education colleges are willing to go out and sell their wares in the market place, but they have limited time and manpower to do it, a feasibility study commissioned by the Further Education Unit discovered.

The results of the study, carried out by HR & H Marketing Research International was presented to the Association of Vice-Principals of Colleges annual general meeting last week – with impressive timing, given the recommendations on marketing contained in the Audit Commission's report (page 10, 11).

The study recommends a more systematic approach towards:

- establishing a full industry and student database,
- maintaining a regular dialogue with industry and government agencies,
- developing closer links with schools,
- developing a corporate identity, public relations and improving communications in and outside the college,
- allocating a realistic marketing budget and appointing a full time marketing director or a college marketing officer.

Mr Henry Isan, vice-principal of Langley College, Berkshire, and president of the association, said his college had already appointed a marketing director.

Much to the college's surprise, the I.E.A. accepted the appointment, but he thought a marketing job would be needed to convince other I.E.A.s, and indeed, some colleges.

"After all, when I began teaching, 30 years ago, it was *infra dig* to go out and sell yourself."

Mr Tom Hegedus, managing director of HR & H, recommended appointing someone at college not county hall level to deal with marketing.

The report of the feasibility study will soon be published by the FEU.

20 years on racism still widespread

Racial discrimination is still widespread, despite being unlawful for 20 years, Mr Peter Newsam (right), chairman of the Commission for Racial Equality, said at the launch of the Commission's annual report last week.

Some of the more obvious forms of discrimination had been dislodged. "We no longer see notices saying that accommodation will not be rented to black tenants." But he was unhappy about some recent phenomena such as the barracking of black British footballers and the persistent physical attacks on members of the Asian community in housing estates and shopping centres.

The commission had achieved some results in education. Discussions with the Manpower Services Commission should lead to more black young people being recruited to the Youth Training Scheme, following an investigation of YTS placements in Birmingham.

A formal investigation into suspensions of black pupils in Birmingham schools would help pupils in other areas to remain in mainstream schools, the commission believed.



Private cleaning idea dropped

East Sussex education authority has decided not to go ahead with a pilot project in privatization of school cleaning in part of the county because it would not make big enough savings.

The Conservative-controlled L.E.A. started an investigation into the possibility because it is faced with having to find large savings in the next financial year.

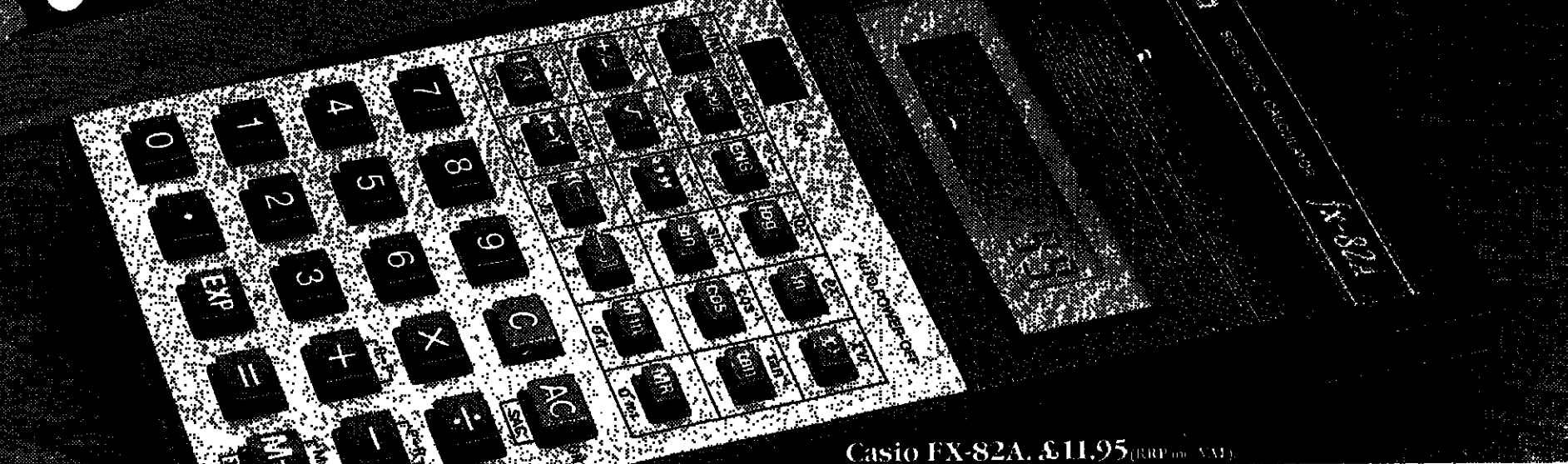
But after a report from the chief

education officer, Mr J. A. Carter, a finance subcommittee has dropped the idea.

Mr David Russell, the education chairman, said the council were looking at other efficiency measures with staff and unions instead.

"The benefits we might gain from using contractors do not sufficiently outweigh all the complexities involved," he said.

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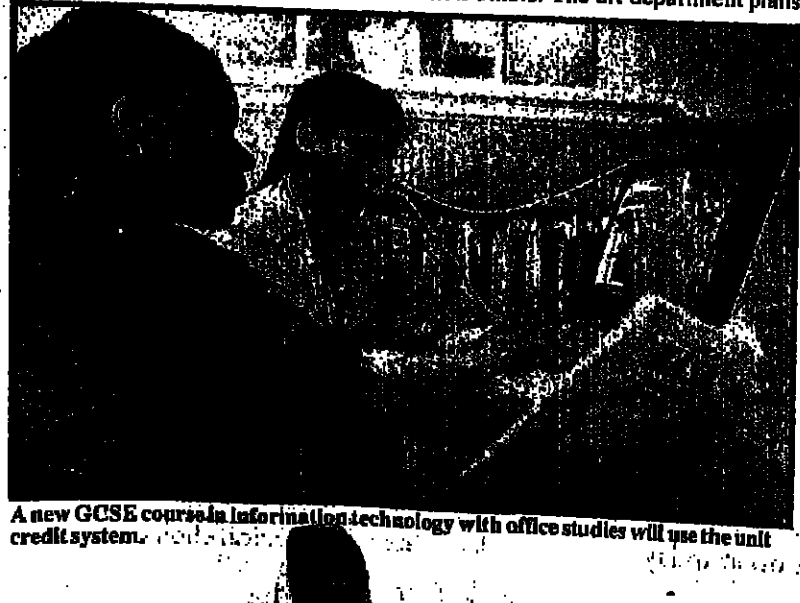
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مكتبة الأصل

Diane Spencer reports (here and opposite page) on the Audit Commission report Isolating the areas of waste in FE

At least 75,000 more students could be taught in further education colleges, and savings of at least £300,000 per college – amounting to £50 million a year – could be made by more efficient management, the Audit Commission says in its long-awaited report.

Last year, auditors examined in detail the way resources are being used in 165 out of 550 polytechnics and colleges of further education. And they found improvements could be made in four main areas:

● **Better marketing of FE courses.** Auditors were surprised to find that in areas of high unemployment among 16-year-olds, average class sizes for non-academic courses were relatively low. "If additional demand for existing courses could be generated, the full-time equivalent of some 75,000 additional students could be provided without overstraining existing teaching

resources." Additional demand can be generated by improving links with local schools and employers, monitoring attendance and retention rates and extending the college year from 36 to 48 weeks.

● **Tailoring teaching resources more closely to demand.** The existing agreements on teacher employment give education authorities wide scope to decide grading, mix of staff and the amount of time spent in front of a class. Within the present agreements, the difference between the highest and lowest cost to teach the same workload is more than 30 per cent.

Better value is obtained by:
□ Aiming for an overall staff/student ratio of 12:1;
□ Ensuring that class contact hours for lecturers are within the nationally agreed ranges;
□ Avoiding over-grading of staff; at present the

higher a lecturer's grade, the less time can be spent in class contact;

□ Controlling lecturers' out-of-class time, in particular limiting remission from agreed class contact hours to 4 per cent;
□ Avoiding over-teaching: courses involving more than 24 class hours a week need careful review.

● **Better cost recovery.** Prompt billing of fees to students, the Manpower Services Commission, reimbursement of expenses incurred by lecturers carrying out externally-financed research, tight control on library books, and avoidance of losses on catering should be common practice. But they are not in many cases.

● **Tight control over non-teaching costs.** Many colleges have the opportunity to improve the use of space, reduce cleaning and energy costs and to tighten purchasing arrangements.

The Commission says many colleges have monitoring progress since they were audited last year and have found it possible to avoid forced redundancies because natural turnover among lecturers averages around 5 per cent a year.

The summary concludes: "Negotiations on lecturers' terms and conditions should open the opportunity for agreeing changes in core working practices which are not conducive to value for money. The reduction in class contact hours, the lack of minimum class contact hours, teaching years of 33 weeks or less and timetabling arrangements which permit lecturers to claim overtime payments even though they have not met their contractual hours for year as a whole, are all aspects of the present arrangements requiring attention."

Isolating waste in FE

Continued from page 10

Non-teaching and administrative costs
Non-teaching costs can amount to 40 per cent of the total. Colleges should examine the relationships between academic and administrative hours and costs and compare administrative costs per student with similar colleges.

They should look at cleaning costs and achieve the same rate as most secondary schools. Energy costs could be decreased by applying appropriate electricity and water tariffs. Savings might be made on rates – some colleges have carried out paying rates for unused buildings or even on those sold or demolished.

Next steps

For auditors
They will see that agreed changes are implemented on time with the expected results. Every six months when they visit local authorities they will check on the 110 further education projects now in operation. "The auditors can be expected to issue reports in the public interest if there is any unwarranted delay in moving ahead along agreed lines, or if the anticipated results are not being achieved."

For local education authorities
They have the difficult task of implementing the changes that have been agreed as a result of the local value-for-money projects. It is unrealistic to expect instant progress, particularly if staffing

changes are required. But in three years, most, if not all, of the agreed steps should have been taken, given a good working relationship between the authority and the principal and governing body.

With good management, it should be possible to reduce staff without making compulsory redundancies, as about 4,500 full-time equivalent lecturers leave either for retirement or personal reasons.

The Commission has provided a table (below) giving its views on attainable standards and the levels of performance that cause it concern.

Table 2: selected FE performance indicators	Attainable	Cause for concern
Average class size	19-15	<12
Student staff ratio	11-12	<8
Average lecturer hours	16-18	<14
Overall retention	85-90%	<84%
Part-time staffing	20-25%	<15%
Average remission	2-4%	>5%

In addition, the Commission expects L.E.A.s to adhere to the Pilkington guidelines on class size for new courses and to ensure that the teaching year is tailored to the needs of the market. (The guidelines recommended minimum enrolments of 24 for a full-time course, 15 for part-time day courses with workshop practice and 20 for others).

"There is little evidence of widespread adoption of these recommendations for NAFE courses," the report comments.

For the Burnham Further Education Committee and the National Joint Council
"It would clearly be inappropriate for the Commission to suggest specific changes in the present arrangements," the report says, but goes on to "suggest some problems that could be addressed with advantage."

"The principle that the more senior lecturers must spend less time teaching than their less experienced colleagues appears questionable from the standpoint both of students and L.E.A.s. This is particularly the case when demands for new courses are being made."

"The lack of flexibility resulting from the very detailed (even mechanistic) arrangements for defining staff levels and grades can be damaging. It makes it more difficult for colleges to react to market opportunities. And it is not easy to tailor staffing to reflect the talents of individual lecturers and the needs of students."

"The appearance of restrictive practices in the present terms and conditions can only be damaging to the public standing of the further education service. If the following practices are widespread the cost to L.E.A.s and the opportunity cost to students will be high:

● Lack of minimum class contact hours for lecturers, to complement the maximum now embodied in the agreements.

● Absence of an agreed list of those activities for which remission from agreed class contact hours can legitimately be granted.

● Teaching years which do not reflect the needs of the market, or the nominal academic year for the college.

● Timetabling arrangements which permit lecturers to claim overtime payments even though they have not met their contractual hours for the year as a whole.

"The audit reviews carried out last year suggest that these problems need urgent attention in the interest of the FE service and those it exists to serve as well as the tax and ratepayers who meet the cost involved."

Obtaining better value from further education, a report by the Audit Commission, June 1985, HMSO £5.00.

Lecturer's union condemns report

The largest college lecturers' union has condemned the report as "an accountant's pipedream, an educationist's nightmare and a wasted opportunity."

Mr Peter Dawson, general secretary of the 76,000-strong National Association of Teachers in Further and Higher Education, said it was in everyone's interest for colleges to be effectively and efficiently managed.

But the Commission's view that 75,000 more students could be brought into FE on present resources was a pipedream.

"The accountants who informed this report failed to understand that a lecturer's job and the agreements which govern it are designed to meet educational needs. It is nonsensical to measure lecturers' productivity in terms of the time they spend in front of a class," said Mr Dawson.

The report was also seen as contradictory. It lays stress on the need for staff development, marketing and improving links with school and industry yet in the same breath it argues for a reduction in the time available for these activities, Mr Dawson said.

The report had already prompted some local authorities to press for negotiations on conditions of service, Mr David Triesman, the union's negotiations secretary, said.

But he warned that while NATFHE was not prepared to negotiate at local level, it was, however, willing to listen, discuss and negotiate any item in the National Joint Council.

Mr Triesman criticized the report for studying only teaching hours, not the total commitment of a lecturer.

"This is as old-fashioned a piece of educational philosophy as we've heard in the last two decades. It's like arguing that accountants should give up computers and go back to the abacus."

If some of the Commission's criteria on class sizes were to be imposed now, many of the classes for special needs, such as access courses for ethnic minorities and women, would close tomorrow, he said.

The union was also puzzled by the accusation of "over-teaching". The figure of 24 hours did not make sense. For some courses this would be too much, for others far too little. Once again the Commission was making educational judgements.

The notion that the Burnham agreements were restrictive was a "pretty offensive" one, Mr Jim Muncey, assistant secretary for conditions of service, said.

The Wakefield college, praised by the Commission in its report, had reorganized its work pattern and productivity within existing agreements, he said.

The Association of Polytechnic Teachers, not usually noted for allying itself with its bigger rival union, NATFHE, was equally incensed.

Dr Tony Pountain, the general secretary, said it was clear that the Commission knew nothing about polytechnics' conditions of service or their aims.

"They should never have allowed themselves to comment on the functions of institutions about which they know nothing. It is quite improper," he said.

Local authorities in England and Wales spend more than £2 billion a year (gross) on further education, the Commission says in the introduction to the report.

They employ about 90,000 lecturers in polytechnics and colleges. Net expenditure after income and grants exceeds £1,550 million. Almost 400,000 full-time and part-time students are enrolled in advanced courses and 1.7 million in non-advanced; in all these are equivalent to 900,000 full-time students.

Developments outside the control of individual councils have made it increasingly difficult for L.E.A.s to manage the FE service, the Commission acknowledges.

The uncertain economic outlook, including the near collapse of apprenticeships, has increased the demand

for FE: the impact of the MSC's Youth Training Scheme is difficult to determine; the reduction in teacher training has forced the amalgamation of colleges and the Government's decision to hand over 25 per cent of funds to the MSC will increase that body's influence in colleges.

"These difficulties will not go away." And new ones are on the horizon: demographic changes will mean the number of 16 to 19-year-olds will have fallen by one-third between 1980 and 1994.

The Commission decided to publish this report as the auditors had covered only one college in detail, so by describing the approach in detail, the practical lessons learned by the Commission and its auditors can be applied elsewhere. The potential value of improvements is large, and good practice described in the report can also be applied elsewhere. Ratepayers and taxpayers are entitled to reassurance that action is in hand at the local level to tackle waste and inefficiency where it can be shown to exist.

Improvement opportunities

Improving marketing
Symptoms of poor marketing include:
● High fall-out rates: people voting with their feet prompt the question: were they the right candidates or was the course at fault?
● Non-viable classes: Auditors found a "disturbing number" of classes of eight or fewer.
● Unexpected enrolment shortfalls: Accurate forecasting of demand is one indicator of a good understanding of

the market. In one extreme example, a district auditor found a college staffed for 300 full-time equivalent students in its education department but the actual enrolment was 30.

To be effective in marketing, colleges must:

● Spend senior staff time and effort. Many FE establishments are sizeable operations with a cost base appropriate to a company with sales of £5 million a year. Such a company would have one or two senior executives assigned full-time to understanding the market and tailoring their product to changing needs.
● Collect intelligence. At minimum, colleges should interview local schools, trade unions, employers and the MSC to discover views on present courses and likely changes at least once a year.
● Get feedback from students. This could take the form of reports at the end of the session, interviews with students dropping out and follow up of

those who have left.

● Have tight planning and control by the principal for approving courses and for reviewing resources allocated.

Tailoring academic staffing to demand
Auditors found teaching hours in some colleges were inflated. Remission hours may need to be questioned, they say. In one college, the lecturers in a division of the science and technology faculty claimed 24 hours for attending development committees while the school of psychology claimed less than 10 hours for attending similar committees.

Overtime payments, costing a college around £100,000 a year, may be incurred while staff are not meeting their maximum contact hours in a year. Registers are often inaccurate. In one college, a sample of 288 registers revealed significant errors or omissions in 55 per cent of them.

"Such practices cannot be defended and are not tolerated in most colleges. Indeed, in some instances disciplinary action would seem appropriate."

In the graph (above) the Commission shows the relationship between the cost per student, staff/student ratios and the number of students that

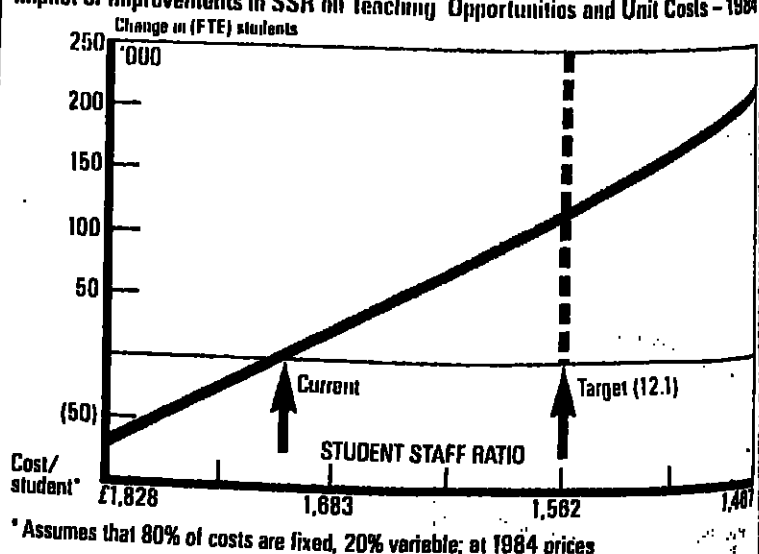
can be taught.

The cost and service implications of quite small differences in mix of lecturers and permitted class contact hours alone are "quite startling", it says. Table 1 shows the difference between the lowest and highest cost methods of staffing to teach a similar workload: 100,000 weekly student hours, distributed on a national pattern. The lowest cost is derived from a combination of the lowest proportions of higher grade posts permitted under the Burnham agreements and the maximum contact hours allowed for the grade.

Table 1: potential range in costs to teach similar workloads
2000, at 1984 prices, illustrative only

	Lowest	Highest	Difference
Principal Lecturer	142	425	+199%
Senior Lecturer	530	723	+37%
Lecturer Grade II	724	1082	+48%
Lecturer Grade I	950	1010	+6%
Part-time Lecturer	670	n/a	n/a
Total	2916	3820	+31%

Impact of Improvements in SSR on Teaching Opportunities and Unit Costs - 1984



* Assumes that 80% of costs are fixed, 20% variable; at 1984 prices

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A seeker of value for money

"This report is not a sort of a hatchet job," said a somewhat defensive Mr John Banham, Controller of the Audit Commission.

"It is stuffed full of examples of good practice and we're very impressed by much of what is going on. We want to persuade the average to get closer to the level of the best."

"However, it is not easy to justify people teaching 10 hours a week for 30 weeks a year; nobody is in a position to deny that this is uncommon."

This report has, he claims, a different focus from the annual report of the Commission published last autumn which dwelt more on cost cutting for its own sake.

This one is about maximizing value without making educational judgements. The Commission is concerned about the amount of spare capacity in the further education system, he says.

Surveys inspected and colleges visited suggested to his auditors that there is a huge untapped demand and need for FE.

Mr Banham had been disturbed by the poorly attended classes in many areas of high youth unemployment. Sheffield and Wakefield were notable exceptions.

"They are very, very impressive – the colleges there are playing an important part in the life of our community. That kind of get up and go attitude we'd like to see becoming more universal."

Mr. Banham's 15 commissioners met every month and "crawled all over" the report before it was published, he said.

The Commission singled out some authorities and colleges as providing examples of good practice.

□ **St Helens Metropolitan Borough Council** has an agreement with lecturers to make full use of all 36 weeks worked by a lecturer each year. This means averaging class contact hours: for example, if a lecturer's locally agreed contact hours are 20 a week then he or she should achieve 720 hours over 36 weeks. Averaging enables shortfalls in one week to be balanced by extra teaching hours in others.

□ **Wakefield District College**, created four years ago out of an amalgamation of three colleges, has improved the staff/student ratio from 8.9:1 to 14:1 in three years. Remission is less than 2 per cent of the total staff time. The retention rate is 96 per cent with exam results better than in the local secondary schools. Administrative responsibilities are rotated regularly among senior management which reduces firefighting and empire-building. The college has a liaison officer for local schools and it is about to appoint a marketing director.

□ **Wirral Metropolitan Borough Council** experience in tightening college management is spelled out in great detail in an appendix of the report. It shows that yearly management reviews strengthened the data base and decision-making processes. The results have been the transfer of resources to new initiatives, reduction in costs and a higher level of service. "In short, better value for money."

The Commission's role

The Audit Commission for Local Authorities in England and Wales is an independent body, established under the provisions of the Local Government Finance Act, 1982.

Its duties are to appoint auditors to local authorities and to help the authorities bring about improvements in economy, efficiency and effectiveness.

The Commission has 15 members drawn from – but not representing – a wide range of interests including industry, local government, the accountancy profession and the trade unions. Members were appointed jointly by the Secretary of State for the Environment and the Secretary of State for Wales, initially for a three-year term.

Examples of good practice

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Sir Keith Joseph maps out his view of geography in the curriculum.
Extracts from a speech delivered this week to the Geographical Association

Exploring the complex political areas

Geography has an important role to play in the curriculum of both primary and secondary schools, and the heart of the subject is "not just the study of the earth's surface, but also the study of the world as the home of mankind", Sir Keith Joseph, the Education Secretary, told the Geographical Association this week.

In a key policy speech setting out his view of the subject, Sir Keith made it clear that he saw it as a highly-charged political area where pupils were too often taught simple answers to problems such as Third World poverty, or inner-city development.

He suggested pupils needed to know more about the complex inter-relationships between human attitudes, national and international systems of government, and the physical environment, and to be given a greater appreciation of how and where human enterprise can flourish.

He also questioned whether, within the subject, pupils were taught enough about economic and political processes.

Sir Keith said the benefits of studying geography were that pupils are taught to appreciate the complex relationships that make up the world, and how these constantly change.

The study of such relationships "ought to help pupils come to understand the intricate economic, social and political interconnections between different parts of the world and between factors which determine what

happens in any particular part of it". Pupils must have in their minds a rudimentary spatial map, and develop a sense of scale and distance, Sir Keith said. They also need to acquire information about the distribution patterns of a variety of time scales "from the cosmic and geological, through the time scale of recorded history to current trends which may be developing very rapidly indeed. A week can be a long time in geography".

Geography had a special role in developing skills through fieldwork and practical investigations, he said. "But a description of geography in terms of knowledge, understanding and skills is still incomplete. Given my position it may not surprise you when I say that geography is in many ways a political subject; and it is also, of course, a value-laden subject."

"The skills of history and geography, though different, have much in common, for example in the weighing of evidence which is complex, incomplete, conflicting and itself influenced by subjective factors."

Sir Keith said he wanted to discuss three specific areas:

● The way the subject approaches complex and politically contentious issues.

● The relationship between people and their environment and the "way in



which geography teachers can illuminate the conditions in which human enterprise can flourish."

Complex and politically contentious issues

"I start with the way in which geography approaches the complexity of today's world. . . . To take just one example, to understand the changes taking place in a city - in its physical form, in the activities which take place there and in the way of life of its inhabitants - it is necessary to take account of economic, social, political, cultural, historical and technological

influences on people's behaviour.

"Some recent changes may be large in the result of policies of large organisations and institutions, including central and local government. Others are bound to stem from the preferences, initiatives and endeavours of individuals."

"That complexity is reflected in the study of issues of great topical concern which might be classified as social, economic and environmental. I have in mind issues such as the problems which we associate with the inner city areas of large cities; regional differences in unemployment; the economic difficulties faced by the poorer countries of the world; the conservation of diminishing resources; and the control of pollution in the atmosphere."

"All such issues have a significant geographical dimension. But all are difficult to tackle and to comprehend and need to be treated carefully."

"If I may say so, teachers do no service to their pupils if they give them the impression that such problems are easily defined, that the processes are well understood so that their occurrence can be straightforwardly explained, and that there are always practicable solutions readily available. Issues such as these are always matters of legitimate dispute precisely because there are often strong disagreements about diagnoses, goals and strategies."

"Let me take one example which has long concerned me. One of the most serious, even harrowing, problems of our time is the apparent inability of many Third World countries to escape from poverty. I say 'apparent' because some are succeeding in that respect."

"Unfortunately there are many people, and they include some politicians, who see this immensely complex issue in simplistic terms and who try to find the outcome as more or less inevitably determined by some supposed environmental, political or historical law. That kind of approach seems to me to be wrong and dangerous. It is certainly not one to be offered to the young as the only possible answer. Pupils should be encouraged to weigh all the evidence, and to judge with assurance only where the evidence justifies this."

"I believe that geography teachers can do a great service in helping pupils to learn to do these difficult things. 'In the examples I have quoted, they can draw pupils' attention to the striking differences in levels of economic activity and prosperity, physical and cultural conditions, historical experience, political organisation and political stability between and, in some respects, within the countries of the Third World, and they can relate this to what is happening, and has happened, in the developed world."

"They can help pupils to consider the different priorities and strategies which different governments have chosen and to examine how far there is tension between encouraging a more even distribution of wealth and of opportunities on the one hand and supporting changes which foster innovation and the creation of wealth on the other. Pupils can be helped to consider the application of democratic values and the rule of law and the consequences of their absence. They can investigate the often conflicting analyses of the complex nature of the relationships between the wealthier and the poorer countries, the implications of international aid programmes, the part that trade has to play and the influence of multinational corporations. Why do some countries seem to be escaping more rapidly from poverty than others? Is it aid? Is it trade? Is the form of government relevant, or the practices of government relevant?"

The relationship between people and their environment

"In the past, I suspect that some geography teachers may have been inclined to present the physical environment as the prime controlling influence which largely explained the use of land and the relative success of

particular enterprises in places."

"I also wonder whether teachers have more recently advanced explanations based on physical determinism but not on determinism, presenting the idea of economic environments as a way."

"It is a fair description of state of affairs as it was, and, at times, still is, in that pupils are also given a poor adequate opportunity to see how groups have affected events: that is, the conservation of diminishing resources, and the control of pollution in the atmosphere."

"I have no wish to imply environmental conditions are ignored or to deny that such capacity to waste resources, in a geographical sense, is not to help pupils appreciate some environments and areas are more vulnerable than others, and that what can be done to protect them, and environments for generations, but also to encourage and capabilities, or the lack of them, these qualities, the fact that they are 'deserved' and to recognize their philosophical and practical difficulties in forms of government."

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Don't stream on grounds of gender, staff warned

by Hilary Wilce

Girls win sex bias case

by Adriana Coudrey

An education authority and a primary school headteacher have admitted in court that three girls were made to remain in the same class for two years as a result of alleged sex discrimination. Bromley education authority, in west London, has paid a total of £31,000 compensation to the trio, whose parents believe they have suffered academically and emotionally through repeating a year. Now the "out of court" settlement has been agreed, the authority has agreed to pay the girls' legal costs.

From The TES, November 16

visual interests of their pupils.

After court proceedings had been started, the EOC agreed a settlement. It admitted that it had breached the Sex Discrimination Act, and paid damages and legal costs.

The EOC points out that Section 22 of the Sex Discrimination Act says schools and colleges must not discriminate on the grounds of sex in the way they admit or exclude pupils or the way they offer them access to benefits, facilities or services.

"The Commission's legal advice is that attempts to introduce quotas of boys and girls in relation to educational provision is likely to result in unlawful acts. . . . The guiding principle is that pupils should be treated on their individual merits, regardless of their sex."

A similar case concerning the transfer of pupils to secondary schools in



Successful trio: Michelle Debut, Michelle Teh and Sarah Seale.

Lincolnshire was dropped after the EOC and the parents concerned decided not to go through with it.

The parents alleged that girls had to achieve higher marks to get into a girls' grammar school than boys did to get into a boys' school. The local authority maintained there was no discrimination because two entirely separate schools were involved.

A spokesman for the EOC said: "There is always great difficulty with education cases. Parents are understandably reluctant to put their children through the courts. They fear they might be singled out or victimized."

"Moreover, those in permanent posts congratulated themselves on possessing extra skills in music, games and so forth, and felt that, without these, they might not have gained employment."

The most common frustration concerned posts allocated only to experi-

Frustration cited in Ulster job search

by Carmel McQuaid

The frustration experienced by many of Northern Ireland's newly qualified teachers at finding posts they applied for filled even before the interviews start is cited in a report just issued. It was felt that the interview was a mere formality, with a panel asking questions that could be answered only by experienced teachers.

The report, *The employment of teachers newly qualified in 1984*, by Dr Patricia Foote, is the most recent in an annual series begun in 1978 by the Northern Ireland Council for Educational Research. It also mentions complaints that resident temporary teachers were given preference over applicants unknown to the principal or management committee, and that most teachers now filter into the system in a temporary or substitute capacity.

Some principals appeared to be biased against certain institutions, and seemed to favour candidates capable of teaching a wide variety of subjects and of assisting in extra-curricular school activities, the report said.

"Newly-qualified teachers felt themselves to be in an invidious situation, since training in a specific subject appeared a less marketable commodity than the type of all-round competence which generally comes with experience," it states.

"Moreover, those in permanent posts congratulated themselves on possessing extra skills in music, games and so forth, and felt that, without these, they might not have gained employment."

The most common frustration concerned posts allocated only to experi-

ence candidates, thereby excluding newly-qualified applicants from ever gaining a foothold in the classroom.

On the other hand, the report found that newly-qualified teachers' prospects of finding work have vastly improved - mainly because of drastic cuts in numbers admitted to teacher training. Of the 556 qualifying, nearly half - 224 - found permanent posts and 215 had temporary work. In fact, the success rate for obtaining employment, either permanent or temporary, has risen to 85 per cent, compared to 79 per cent in 1982.

Women, the survey found, though they number twice as many as men - 69 per cent as against 31 per cent - had more difficulty getting permanent jobs. But they proved better at obtaining teaching work of some type - their 81 per cent comparing favourably with men's 75 per cent.

One striking fact revealed in the report is a rapidly reducing ratio of teachers in full-time permanent positions to others - which has now declined from three to one in 1978 to roughly one to one.

Subject studied proved a crucial factor in landing a job. Those qualified in education and the humanities fared worst, while teachers of science, mathematics, arts and crafts (spheres where men predominated) as well as home economics, physical education, modern languages, commercial subjects and music were most in demand.

The employment of teachers newly-qualified in 1984, available from NICER, The Queen's University of Belfast, 52 Malone Road, Belfast (Telephone: Belfast 661111).

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TES:J17

Film shows how police work, says GLC

by Susannah Kirkman

The GLC has denied that a film on London's policing would make the pupils in ILEA schools see the police as enemies.

"The film raises important issues about the way the police operate in the community. Its purpose is to promote discussion on what sort of policing Londoners want," a spokesman said.

The 30-minute film, called "Policing London", is a drama documentary which shows two fictitious newspaper journalists interviewing the police and following a typical day's activity for London policemen. The police are played by actors, but all the dialogue and incidents shown are authentic, according to the GLC.

Scenes from the film include police turning back a journalist on his way to cover a story about a picket line, the interrogation of a black driver and the unhelpful reaction of a policeman to a woman who just been attacked and robbed.

A wallchart accompanying the film was first issued a year ago and refers to 16 areas of policing, including "militarization", "routine over-reaction", "the cult of masculinity" among detectives and the "search for excitement" by officers. Photographs of the police in action are captioned with quotations from the highly-critical 1983 report on Scotland Yard and the Metropolitan Police by the Policy Studies Institute.

The film was released last month by the GLC's police committee support unit and is now in constant demand. Copies have been borrowed by schools, colleges, youth groups, and the police themselves, says the GLC.

Mr Leon Brittan, the Home Secretary, has condemned the film as "an utterly one-sided piece of pernicious propaganda." The Police Federation has criticized it as "crude propaganda" which would prejudice young people living in "tense" areas against the police.



Roasting for meat

by Diane Spencer

The Vegetarian Society is setting out to win the hearts and minds of the nation's schoolchildren.

The society's first chief executive, Mr Peter Cox, says his major target is schools, both classrooms and canteens.

"Young people already know that meat is murder and they won't be taken in by expensive advertising that tries to hide the truth from them. Our battlefield for the next generation of vegetarians will be in the schools."

Mr Cox, 30, is a former advertising executive who aims to turn the society into a powerful lobbying force. He aims to make butchers' meat a thing of the past by the end of the century.

The society is already running courses for school caterers and hopes to establish a vegetarian catering qualification in colleges.

Meanwhile the Meat Promotion Executive is stepping up the pressure by extending a pilot scheme it has been running in schools in Blackburn and Buckinghamshire called "Adopt a butcher".

The scheme is designed as part of a home economics syllabus and brings a butcher into schools to talk to pupils about different cuts of meat and the value of meat in a balanced diet.

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NEWS

The Queen's Birthday Honours

Companions of Honour
Porter, Professor Rodney Robert, for services to biochemistry.

Knights Bachelor
Cox, David Roxbee, professor of statistics, Imperial College of Science and Technology, London University; Froggatt, Peter, president and vice-chancellor, Queen's University of Belfast; Hiney, Professor Francis Harry, historian; Lowry, John Patrick, chairman, Advisory, Conciliation and Arbitration Service; Lumsden, David James, principal, Royal Academy of Music; Mann, James, chairman, Consultative Committee on the Curriculum and for public services in Scotland; Randle, Philip John, professor of clinical biochemistry, University of Oxford; Wade, Professor Henry William, professor of services to English law; Williams, David Innes, director, British Postgraduate Medical Federation, London University.

Order of the Bath
KCB
Hiscock, David John Stowell, permanent secretary, Department of Education and Science.

Order of St Michael and St George
CNG
Fender, Professor B E F, lately director, Institut Laue Langevin, Grenoble.

Order of the British Empire
CBE
Beesley, Professor M E, director, Institute of



David Hancock

public sector management, London Business School; Biddell, Mrs D, services to education in Bradford; Conning, H G, principal, Dundee College of Technology; Epstein, M A, professor of pathology, Brighton Polytechnic; Harries, R J, chief education officer, Ealing; Henderson, Professor D M, regius keeper, Botanic Garden, Edinburgh; Hinton, N J, lately director, National Council for Voluntary Service; Houseman, du Boulay, Professor E P George, professor of neurophysiology, London University.

Jackson, Professor K H, services to Celtic studies; Jones, D E A, commissioner for local administration in Wales; Plummer, L A, lately secretary, Association of Metropolitan Authorities; Radcliffe, P, lately chairman, executive council, Isle of Man; Whitehead, T P, professor of clinical chemistry and dean, faculty of medicine and dentistry, Birmingham University; Willett, Professor F, director, Hunterian Museum and Art Gallery, Glasgow University; Williamson, J, professor of psychiatry, Edinburgh University; Wolff, O H, Nuffield professor of child health, London University, and dean, the Institute of Child Health.

ORE
Adams, C G, senior principal scientific officer, Department of Education and Science; Bailey, R W, lately director of education, Kingston Polytechnic; Blizard, D H, director of continuing education, Nelson and Colne College; Foster, G S, lately headmaster, Towers School, Ashford; Kent, Stephen, lately director, general secretary, Universities Central Council on Admissions; Macgregor, Mrs J E, senior tutor, department of pathology, Aberdeen University; McGregor, Mrs M, member, North Eastern Education and Library Board, Northern Ireland; Poynter, J E, professor of Music Education, York University; Smith, Mrs J E, chairman, 'Spastics' Society; Smyth, J Crocket, head of department of biology, Paisley College of Technology; Stanley, D C, deputy director of education and training, CBI.

MBE
Baker, Mrs B M, services to handicapped children in Gloucester; Bradley, A, superintendent of lab, department of physics, Sheffield University; Cumber, W D, head of Spun Gate Primary School, Coventry; Davis, Miss V, lately of department of adult studies, Blackwell College of Education; Harrison, S, services to musical education; Harvey, R, head of Mill House Special School for handicapped children, Newton-le-Willows; Lances, Kean, F W, secretary and treasurer, Glasgow School of Art; Jones, H D, lately head of French department, 1 Landsea High School; Walde, F, chairman, Aswell Park School Foundation; Willsheir, Miss J J, head of Chelsea Open Air Nursery.

British Empire Medal
Barrett, Mrs T K, cook in charge, Southern county primary school, Norfolk; Hagen, F J, lately headmaster, Glasgow College of Food Technology; McIlroy, W J, lately head junior, Kircubright Academy; Myatt, Mrs F E, lately catering assistant, Sheffield University; Taylor, Mrs A A, school crossing patrol, Metropolitan Police; Trotter, G, lately technical grade 1, Napier College of Communications and Technology, Edinburgh; Wheatley, Mrs M A, service to child health clinic, Eilemure Park.

Diplomatic service and overseas list
MBE
Dineen, F G R, service to English teaching in Berlin; Fraser, I, service to education in Ankara.

Swann Committee member rejects MBE

A black member of the Swann Committee, which reported to March on the education of ethnic minority children, has declined the offer of an MBE in the Honours List.

Mr Trevor Carter, a senior liaison officer with the Inner London Education Authority, is understood to have rejected the offer on two grounds. As a member of the black community he would have found it a considerable embarrassment to accept an award which he felt reflected Britain's colonial past. And he was unhappy with the Government's unenthusiastic response to the Swann report.

Union's fringe involvement in running YTS

Trade union involvement in the operation of the YTS is patchy, despite the central role of the TUC in its policy and planning. This marginal involvement is because the bulk of the trainees are in jobs or workplaces where the unions are weak.

The unions' inability to represent the majority of the trainees - suspected but not confirmed by the TUC leaders - has become apparent from an attempt to survey YTS pay and conditions.

Only a handful of replies was received to 3,000 copies of a questionnaire sent out by the Labour Research Department, the independent body which briefs union negotiators.

The researchers had to get their information from a small number of individual unions whom they already knew were involved in YTS negotiations, and from other unions who were known to have refused to participate.

The current issue of the department's monthly journal *Bargaining Report*, says it found nine cases where YTS schemes had been proposed but not implemented. In six, the unions had been dissatisfied with the proposed pay, worried about job substitution or unhappy about the uncertain quality of the training; in two others, the firms were not prepared to accept the union terms; and the remaining proposal was abandoned because of funding difficulties.

Some unions did not see YTS as a major negotiating issue because it only involved a minority of young people. Their work experience placements were concentrated in places difficult to organize - such as shops, warehouses, restaurants and garages, and YTS youngsters were twice as likely as other workers to be in distribution, hotels, catering, or repairs.

More than a quarter of YTS managing agents sent the trainees out to other being judged had already run into fierce opposition, most particularly to the demand that lecturing staff should have recent classroom teaching experience, and that students on BEA courses should have two full years of subject study in higher education.

But he believed that through CATE's work and other developments in training, "we will be seeing a steady, progressive improvement in the quality of experience our young people have in classrooms, lecture rooms and laboratories."

Dr Taylor said it was a pity the word "quality" had become seen as a way of concealing and legitimizing restrictions on education spending. "In fact, the term is so political that to welcome official interest in the subject of teaching quality is to risk being seen as making a political, not an educational point."

Education was increasingly dominated by "the lobby left and the lobby right", he said. "They are inevitable small groups, but the terms of debate are set by their utterings."

Dr Taylor was addressing the annual general meeting of the Centre for Education in World Citizenship, which he congratulated for working in the sensitive area of peace studies and international relations and keeping "your respectability, your royal patronage, and your government grant".

Officials of the Hampshire-based Associated Examining Board say that the firms would initially administer only the board's basic tests, a range of non-GCE single subject examinations which have been developed specifically to meet employers' needs. But they envisage that eventually youngsters could sit for O level subjects at such employer-run centres.

The AEB has been more closely involved than most of the GCE boards with vocational education and its O levels have included subjects like building practice, which incorporate tests in bricklaying and plastering. Now it is taking the YTS so seriously that it has just appointed an industrial liaison officer.

The basic tests - originally developed to check that school leavers (whether or not they had the matching O levels) could actually use arithmetic and English in the way employers wanted - now include subjects like health and safety, and are used increasingly to assess the progress of trainees in industry. Some schools are considering using them as part of the Certificate of Pre-vocational Education (CPVE) and as tests of achievement for pupil profiles.



Building practice... one of the AEB O levels

Trainees could sit workplace O levels

Tories tighten grip on rowdy student group

A major shake-up of the Federation of Conservative Students has been ordered in the wake of rowdy incidents at a party during a conference at Loughborough University.

An inquiry into the events of April 1, when rooms were wrecked and had spilled over into intimidation. Of the federation generally, the inquiry reported intolerance and factionalism within the movement. A comprehensive review of the rules and constitution of the federation has been ordered, and party headquarters will be given more control over its activities.

Mr John Selwyn Gummer, chairman of the Conservative Party, told a press conference: "The behaviour was unacceptable. People should have owned up for what they did. Much more important is that the federation must not be an organization within which factionalism runs rife to the detriment of the party as a whole," he said.

The inquiry report said: "the main problem is excessive factionalism, compounded by intolerance of what

are seen to be minority views." Of the Loughborough party, the report said: "The total mess was considerable and brought nothing but discredit to the Conservative Party in the eyes of the university staff, who were confronted by it and who refused to be seen to be minority views."

"The mess was eventually cleared up by some students from Scotland." The report said there was evidence of late night revelry spilling over into intimidation by hanging on doors of rooms where students of differing factions were asleep, and the shouting of threats. "The actions of the ultra-right FCS are clearly causing a serious rift within the party. The 14,000-strong organization is being removed from Conservative Central Office in London - a move viewed within the FCS as a plot by Tory moderates to oust them from the seat of power."

For the past four years, the FCS has become a growing embarrassment to the party leadership.

The problems came to a head with the violence at Loughborough, after which three students were sent home.

Marks determine new grading

The new A level grading system proposed by the Secondary Examinations Council could be in force by June 1986. If it is approved by the Secretaries of state, the scheme will mean that pupils will be judged by their marks rather than against their peers, and the narrow C band will be widened (TES, May 3).

Exam boards will have to fix boundaries between grades B and C, and between E and N, the new "near miss" grade, based on the quality of candidates' work. Each grade between B and E will cover the same number of marks. Failure will still be denoted by grade U.

Under the present system, examiners' guidelines assume that a fixed percentage of candidates will gain each grade.

A complete review of the A level grading system is expected when the SEC has had time to see the effect of introducing grade-related criteria in the GCSE.

How research and reports make better teachers

by Hilary Wilce

Increasing knowledge about what makes a good teacher and moves to sharpen teacher training will together improve professional standards, Dr Bill Taylor, principal of London University, said this week.

Dr Taylor acknowledged that teaching was "not a wholly scientific activity" and that inspired teaching was an unquantifiable art, but argued that there was now a "body of knowledge which, used properly, can help all practising teachers."

Studies of teaching effectiveness, carried out over the last 10 to 15 years, and the growing volume of published reports from Her Majesty's Inspectorate, meant we now knew much more about what goes on in the classroom, he said.

"To give one example, children need massive reinforcement of success, much more than commonsense might dictate."

Studies have shown that young children need to succeed at 80 to 90 per cent of the tasks they attempt. Once they begin to fail at more than 10 to 20 per cent they become dispirited and begin to fall back. This meant that teachers had to constantly find ways to encourage and reinforce children's achievements, even when they were failing.

The inspectors had been "quite categorical" in their assertions that the

crucial factor in good education was the quality of teaching, he said.

Standards of entry to the profession had been raised, yet problems remained. People coming in to teach in the shortage areas of maths and science had poorer qualifications than those coming in to other areas, and in schools there was often a mismatch between teachers' skills and the job they were doing. Also, teachers' morale was badly affected by having to work in decaying schools with insufficient resources.

Dr Taylor pointed out that 20 years of research into teaching styles had produced no clear results. "The debate will go on. There is a great variety of teaching styles and a great variety of valid teaching styles." There was, however, willingness to make judgements about the characteristics which make up good teaching.

"Teaching which is ineffectual, inefficient, wasteful, careless, sloppy, and which consists of badly prepared lessons is bad teaching. By any standards at all, it is bad teaching."

Dr Taylor outlined moves by the Council for the Accreditation of Teacher Education (of which he is chairman), to review initial training courses. CATE was due to look at 600 courses in 85 institutions in the next four years, he said.

The criteria under which courses are

Belief that schools should decide fitness to teach gains support

by Bert Lodge

Colleges should accept a school's judgement that a student is unfit to become a teacher, according to research findings.

The belief that schools should decide is prevalent among a significant number of teachers, especially senior staff.

But students themselves feel that conditions in a particular school make so much difference that the final judgement should not rest with the school.

Mr Reginald Jenkins, who for 19 years organized students' teaching practice at Avery Hill College of Higher Education, visited 10 training institutions, 12 primary and 13 secondary schools and a number of teachers' centres where he met large groups of probationary teachers.

He says his report represents a "distillation of the opinions expressed by a significant number of tutors, teachers and students in a selection of establishments".

Findings showed that while students often argued for more opportunity to watch experienced class teachers at work, not all class teachers want to be more involved in the training process. Heads of primary and senior management of secondary schools are more favourable to the idea.

College staffs, schools staffs and students generally agree that how a student performs on teaching practice depends to a great extent on the particular circumstances at the school.

For this reason, many teachers think the final assessment should lie with the college, although the overall opinion from all three sectors is that the final assessment should be a joint decision. But a number of teachers, especially those in senior posts, thought that if a school recommended that a student should be failed, then not only should the college consider it, but no excuse should be accepted that the circumstances of the school might account for a poor performance.

Both primary and secondary teachers complain of the lack of consultation with tutors responsible for supervising students on teaching practice. "Evidence was widespread that school staff and institution tutors are at their judgements with minimum consultation. Some teachers are convinced that their analysis and assessment of students were read by nobody unless they themselves discussed the contents with the students."

Students claim they learn a great deal from simply observing class teachers at work and would like more time spent on that. Instead, they were often expected to insert into the programme some unsuitable temporary class activity or simply to report to the school with an observation checklist.

An investigation into some problems of practical teaching within the initial teacher education course, by R. Jenkins, obtainable from room 201 County Hall, London SE1. £1.

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NAFE deal step nearer

by Diane Spencer

A significant step towards settling the long-running dispute on funding non-advanced further education in the wake of the Government's White Paper, Training for Jobs, was taken this week by the Association of Metropolitan Authorities.

The association's education committee decided to accept the proposals of the joint policy committee of the Manpower Services Committee and the Local Authority Associations which would leave planning and financial control of colleges firmly in the hands of the L.A.s.

As the AMA was at the spearhead of the opposition to the White Paper proposals to put one-quarter of work-related NAFE into the MSC's hands, its agreement is likely to ensure that the Association of County Councils and the MSC commissioners follow suite. The MSC will meet on June 27 and the ACC on July 4.

But Mrs Nicole Harrison, chairman of the AMA education committee, while accepting the deal warned that her members had reiterated their opposition to the White Paper proposals and they were still calling for them to be withdrawn.

"The resolution accepted the policy group recommendations but denied the need for MSC to withhold some part of its NAFE resources to fund development projects. We agreed that the operation of the scheme should be reviewed after a year."

As reported in *The TES* last week, the deal, thrashed out over five months, will not allow the MSC to buy into specific courses. It will consist of a development plan worked out by local MSC officials and each education authority, to be reviewed three months into the academic year.

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ATOL No. 1068

Edited by Mark Jackson

Nigeria move poses fees threat to colleges

By Hilary Wilce



Mark Featherstone-Witty

Private colleges have been hit by a Nigerian decision to block the transfer of foreign exchange to students on their courses.

Some of the colleges affected may have to close if the decision remains in force. Others will lose fees worth thousands of pounds.

The decision appears to have been made both to tighten up foreign exchange controls, and to tackle problems of students attending "cowboy" colleges.

However, the situation is confused. Separate lists of institutions coming under the ban have been issued by

Nigeria's central bank, and by the federal finance and education ministries.

Colleges affected have had to rely on press reports for their information. Taken together, the lists cover the spectrum of tuition and business colleges. Between 3,000 and 4,000 Nigerian students are thought to be studying in such colleges.

Colleges' heads had condemned the way the decision has been taken. Mr Bill Hunt, principal of Greenwich College, a leading business colleges, said 170 of his students taking banking, transport and shipping courses had

been affected, and some had been stranded with no money.

The colleges were owed £130,000 he said. "We'll survive all right, but the way the decision was taken shows a complete disregard for the country's own nationals."

Mr Mark Featherstone-Witty, principal of the London School of Insurance, where 50 students are affected, said 75 per cent of his students in the coming academic year would be Nigerians, and seven out of 10 of those relied on foreign exchange for their fees.

"If things remain as they are we will

have a decimated college," he said.

Mr David Wilson, chairman of the Conference for Independent Postgraduate Education, has written to the Independent Further Education Council asking it to press Nigeria to remove accreditation from the lists.

The situation has been raised in the House of Lords by Lord Harris of Greenwich, and taken up by the United Kingdom Council for Overseas Student Affairs. This week the Nigerian High Commission refused comment on the situation.

Curriculum to beat cuts and mergers

by Laurie Bullas

A new strategy for protecting the curriculum in small comprehensive schools has been devised by Manchester education department as an alternative to closures or amalgamations.

It involves a model curriculum for an 11-16 school of four-form entry and a guaranteed minimum staff of 40, including the head, no matter how small the intake.

This should ensure a broad range of subjects for all pupils throughout their school life and ensure that new developments in the curriculum for fourth and fifth-year pupils can go ahead.

Manchester has decided against further closures or amalgamations fol-

lowing its major rationalization three years ago and has opted instead for an across-the-board cut of one-form entry for all its 20 high schools.

This means that in the so-called trough in school rolls before numbers start to rise again in the early 1990s the city will have 11 schools of five-form entry and below, and even then some will not achieve their planned sizes.

At some time in the trough, five schools are expected to need the kind of protection offered by the new strategy, which has been adopted by the city education committee.

The reduction in planned admission limits will need the publication of formal notices in only two schools, both of which kept their sixth forms at

the insistence of Sir Keith Joseph when Manchester was switching to six-form colleges.

Governors at Parns Wood and Burnage Boys have already indicated their intention to lodge formal objections after the notices are published, and Sir Keith will again have the last word.

The third school "of proven worth" which kept its sixth, Whalley Range Girls, is not objecting to the same cut from eight-form to seven-form entry proposed for Parns Wood and Burnage, because it supports the principle of protecting inner city schools.

In a report to the education committee, the department accepts that a move towards curriculum-led staffing from the simple application of pupil-

teacher ratios is essential for a four-form entry comprehensive.

The report highlights the plight of the one-member academic subject in such a school and proposes a solution to the problem which will also ensure sufficient diversity of provision between and within subjects.

In addition to the 37 teachers needed to provide the strategy's model curriculum, each school would have an allocation of additional staff equivalent to three teachers.

Schools in adjacent neighbourhoods could then work as consortia or federations, with teams of specialist teachers appointed to the group rather than an individual school.

ILEA drops question on permits

Teachers no longer have to declare whether they have or need a permit when applying for jobs with Inner London Education Authority. ILEA considers the question irrelevant and discriminatory and has removed it from application forms immediately.

"The authority's view is that it is our business," said an ILEA spokesman. "It is a private matter between applicant and the Home Office. All we don't ask the children in school for their passports."

The ILEA has been under pressure for some time from community relations councils in inner London over its discriminatory nature of the question. "It is not primarily a question of opening up jobs to those who are not eligible to take them," the spokesman said. "But a question of removing a discriminatory hurdle which could have been a disincentive to some applicants."

Harrie Stead, chairman of the ILEA "RC" consultative committee said he was delighted that legal advice had confirmed that specific questions on work permits could be deleted from application forms.

"It is a small but significant advance, and corrects a position that is seen to be discriminatory by many people. It has taken time to get it right and I commend the move to other employing authorities."

Deans raise sights for super-teacher standards

UNITED STATES

Bill Norris on a report that better credentials will mean better schools

An elite corps of highly-trained teachers, educated at research universities, is being proposed by a group of education deans set up two years ago to study ways to improve teaching standards in American schools.

The credentials of the super-teachers would include an undergraduate major in the subject they intend to teach, a master's degree in teaching or education, a substantial period of internship, and - at the most advanced level - a second postgraduate degree in a specialized area of professional education.

The 28 deans, known as the "Holmes Group" after a former dean of the Harvard Graduate School of Education, suggest in an interim report that such a scheme could give a significant boost to the teaching profession at a time when it is under attack for producing ill-qualified graduates.

Their plan would initially be confined to their own research universities, and would produce between 5 and 10 per cent of US teachers. Later it might be expanded to include flagship universities and other research institutions in every state, raising the output of specially-qualified teachers to 20 per cent of the total.

The underlying theme of the report is that more serious involvement by the research universities in teacher training would have a catalytic effect on the state school system.

If more of the best and brightest students enter the field, it argues, state and local school officials would be encouraged to elevate both the working conditions and salaries of teachers. At present, say the deans, the rights, responsibilities and rewards of teachers are better fitted to attract students of modest talent, achievement and motivation, than their more able peers.

American teachers have no opportunities for advancement, and those who want to excel have two choices: they can remain frustrated in their work, or they can leave the profession. Circumstances might not be quite so bad if the salary were adequate or the work respected - but these rewards and compensations are also lacking.

Following a four-year deferral of income, combined with a costly investment in a college education, the average American teacher works longer hours and receives less compensation for the work than most semi-skilled labourers.

And, unlike teachers in many developed countries, teachers in the United States are not acknowledged to be very academically talented or well educated.

Rather, they are portrayed as intellectually weak when compared with those who pursue supposedly more demanding careers.

The report says: "Possibly most discouraging of all, however, is a workload that denies many, if not most teachers, the right to excel in teaching without undue hardship and personal sacrifice... under present conditions, only the most dedicated and self-sacrificing teachers maintain their in-

spiration and continued growth in teaching knowledge and skill.

"And as more and more directives force teachers to work in increasingly routine ways, an already difficult occupation offers fewer rewards and less intellectual challenge. Unfortunately, teacher education has come to reflect these same low expectations."

The report accepts that because teaching and teacher-education in American are such large enterprises (there are 1,300 teacher-training institutions), it may not be possible to create truly high standards for all.

"Because it might not be done in total, however, does not mean that it should not be done in part. There are compelling reasons for leading research universities to endorse a view of teaching as highly professional work, and to take responsibility for recruiting and preparing a significant portion of the nation's teachers for this role."

To this end, the deans make a distinction between those who will continue to regard teaching as an occupation, and those who want to become "career professionals".

The latter would complete five years of higher education, and then become paid "interns", working half-time under close supervision and spending the rest of their time in continued professional study. From this stage, they would progress to become novice teachers under modest supervision while completing the remaining course requirements for certification as a career teacher.

The deans propose that the research universities should work with selected school districts to create "exemplary



American teachers can remain frustrated or leave the profession.

school sites" for student and faculty learning about teaching excellence.

"Such sites are needed," they say, "if prospective and practising professionals are to experience excellence in teaching and schooling."

These would be "real world schools", and as often as possible would include children from disadvantaged homes.

The interim report, sponsored by the Federal Department of Education and private foundations, is being passed around the universities and other interested parties for their comments. A final version is expected to be published in September.

It comes at a time when several national groups are jockeying for position in the bid to reform American teacher training and boost the prestige of the profession.

Leading the race are the two national teachers' unions, an association of 720 teacher training colleges, and a task force set up by the Carnegie Corporation. All are worried that the growing teacher shortage will tempt state and local authorities to lower hiring standards, just at the moment when public opinion seems ready for a decisive move in the opposite direction.

Lewis M Branscomb, chief scientist and vice president of IBM, who heads

the Carnegie Task Force, has already warned that a lowering of hiring standards would "make a mockery" of education reforms now being set in motion. The task force is promising an initial set of major policy proposals next spring, and is considering among other things the national teacher examination proposed by Albert Shanker, president of the American Federation of Teachers.

Mary Hatwood Futrell, president of the rival National Education Association, who is also a member of the task force, appears to have swung to Shanker's side on this issue and is proposing to make it a major topic at the association's annual meeting later this month.

Both union leaders were among members of a panel sponsored by the American Association of Colleges for Teacher Education who found that panel's recommendations for more rigorous programmes of teacher education "not rigorous enough". They advocated training for at least five years, including a year of liberal arts and in-depth study of at least one academic subject.

The AACTE, meanwhile, is extremely miffed that it has not been asked to participate in the prestigious Carnegie project.

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BRITISH GAS

Jane Last reports on some disturbing findings as the Gillick case reaches the House of Lords

Fewer under-16s seek pill advice

abortion each year on under-16s. "Mrs Gillick isn't correct in thinking if youngsters can't get contraceptives they won't be having sex," said Ms Diane Munday, BPAS statistics officer. "Experience shows those 600 were having sex." In 1983, more than 4,000 abortions were carried out in England and Wales on under-16s.

Later this month the DHSS will appeal to the House of Lords to overthrow the Gillick ruling. "We hope the decision will be overturned," said Dr Carol Smart, director of the National Council for One Parent Families. "We feel that doctors ought to retain the right to treat very young women."

The judgment does not only affect doctors prescribing birth control but also "any professional providing this involves teachers, health visitors and nurses."

"We are uncertain whether even the mention of contraception involves breaking the law," said Dr Smart. "We know for a fact that many children don't get information on birth control from their parents." She believes it is important for them to get this information from their own teacher. "If an impression is brought in, it gives the impression that nice ordinary teachers don't want to talk about contraception

at all." At present it is not clear whether the subject should be dropped from sex education classes altogether. "The judge used the word 'advice' without interpreting it or explaining it," said Ms Jenny Levin, head of law at London's South Bank Polytechnic and vice-chairman of the National Council for One Parent Families.

"It was a real dog's dinner of a judgment. It's so vague it leads to ambiguities and differences of interpretation."

"The judge started from the basis that parents have total rights over their child. But if they have a right to prevent their child getting advice on contraception, why don't they have a right to prevent them getting advice on any other subject?"

Ms Levin said she had heard of schools and youth clubs considering they should not give sex education without parents' consent. She believed the ruling could give parents the power to interfere in other classroom subjects such as politics. At present parents are allowed to withdraw their children from religious education but not other subjects.

Ms Levin was pessimistic about the Lords appeal. "The Lords may try to confine the ruling to treatment, not

Poly placings made easier

Applicants for a place at a polytechnic should find life easier from this autumn when an admissions system similar to that for universities starts operating.

The Polytechnics Central Admissions System, established in 1984, was officially launched as a going concern this week. It will process applications to all polytechnic degree and Dip HNC courses with effect from October 1985.

PCAS is funded by the Department of Education and Science and the Committee of Directors of Polytechnics and is expected to deal with around 150,000 applicants a year.

The system will run on the same basic timescale and procedures as for the University Central Council on Admissions (UCCA) but PCAS allows four, not five choices, no order of preference is to be given, and the application form allows candidates to express themselves freely in support of their case.

PCAS headquarters are housed in Cheltenham: PO Box 67, Cheltenham, Gloucestershire, GL50 3AP.

£130,000 fund

Over £130,000 has been raised for an annual lecture series at the London School of Economics by international economists and for post graduate research scholarships in economics, arts or higher education policy. The money has been raised for a fund in memory of Lord Robbins, architect of the expansion of British universities in the 1960s and distinguished economist who died in May last year.



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OVERSEAS

Practical steps towards providing schools for all

CHINA

Geoffrey Parkins on Peking's swing to vocational education

Education reforms recently announced in China will mean a massive increase in the number of schools and qualified teachers in a bid to gear the country's education system to economic development and modernization.

The new reforms include an expansion of the country's junior middle, middle and technical schools in an effort to make education available to a greater number of children. The aim is to establish a universal nine-year system of compulsory education within the next decade.

At present only about two-thirds of China's children have the opportunity of going on to junior middle school, and still fewer to middle school because of a severe shortage of schools and qualified teachers.

From now on, the emphasis is to be on technical and vocational education, and many of the middle and key schools (for more able children) are to

be transformed into technical and vocational schools. Together with a large number of new state schools, the creation of commercially and vocationally oriented private schools is to be encouraged by the authorities.

Last year, technical and vocational pupils totalled only 3.7 million, compared to around 45 million in the ordinary middle schools. The authorities feel this is the weakest link in the education system, and plan to reverse the situation.

Short-term technical colleges for school-leavers and young employees are also to be set up where and when the need exists.

Under the new reform, teachers will be given greater freedom, at all levels, in devising courses, curricula and in the choice of teaching method and materials. The emphasis of the new will be on encouraging teachers to adapt their approach to the individual needs of pupils.

But while advocating the adoption of teaching methods to aptitude and propensity, the party central committee's reform statement emphasizes that its main objective is to "do away" with "China's outmoded educational philosophy and teaching



Reformers want to break away from China's traditions

methods", which stress and place value on intellectual or academic pursuits, such as "book learning" and engendering a "respect for authority". Teaching will be geared to the acquisition and development of practical and entrepreneurial skills for employment. In this context the central committee told teachers "that to err is permitted while carrying out the reform, but to balk at it is impermissible".

Regional authorities around the country have been told to take practical measures to increase the number of qualified teachers, and to raise the status and pay of teachers at all levels.

The social and economic status of teachers is to be raised to a level that is the envy of all other workers, not because of their superior knowledge or intellectual abilities, but because of a

recognition of their vital role and contribution to the economic development and modernization of China.

In the colleges and universities, a dual system of student support has been introduced, involving a scholarship/sponsorship system linking level of grant to academic performance, and the introduction of fees and the removal of state support for the majority.

However, grants will be retained for those in financial difficulty, teacher trainees and students assigned to tough work projects after they graduate.

Nearly all research and study is to be geared to increasing production, will be assessed on the basis of its profitability, and most institutions are expected to be basically self-supporting within three to five years.

Science's rising star

In a bid to whip up fervour among ministers and journalists, Mr Peter Sutherland, the European Commissioner responsible for education and training, launched his COMETT at the recent EEC education council in Luxembourg.

COMETT, or the Community Programme for Education and Training in Technologies, intends to do for "the human resources side" what other community programmes, (ESPRIT, RACE and BRIT) have done for research and development.

Europe is lagging behind the US and Japan partly because of its "failure to link third level education with industry", Mr Sutherland said. The hub of the third industrial revolution came out of a "fruitful cooperation between industry and university".

Silicon Valley, for example, was created by William Shockley, a Nobel Prize winner, who created his own company "to develop and commercialise his discovery", Mr Sutherland pointed out.

COMETT generally welcomed by the ministers who devoted most of their meeting to discussing it, will have three targets: first it will help information exchange on successful examples of regional and national industrial-university cooperation, it will find both students and teachers who wish to spend a training period in a company abroad and it will encourage joint development of training packages, and promote language teaching.

There was "a remarkably clear consensus among the ministers that we're all in the same boat", Mr Sutherland said after the meeting.

The quoted figures showing the similar "deficiencies" in European countries, contrasted with their main industrial rivals.

In the community, for example, only about a third of young people finish secondary education whereas in the US the figure is 73 per cent and in Japan 87 per cent.

Again, the EEC produces 260 engineers per million inhabitants while the US produces 350 and Japan 630. All this shows "something lacking in European education... which is rather out of line with the technical requirements of the age in which we live", Mr Sutherland said.

Sir Keith Joseph, Education Secretary, backed Mr Sutherland's analysis. "The key to economic growth depends 'not only on research but above all on technology transfer from laboratory to business', he said.

Anne Good

Moving away from ideology

FRANCE

Mary Follain on the Socialist Party's rethink about schools

Earlier this month the French Socialist Party held its first major educational conference since coming to power four years ago.

While the opposition parties launched into serious election campaigning that same weekend, a thousand delegates, comfortably ensconced in a luxury hotel in Montparnasse, met to pick up the pieces after their humiliating defeat last year over their attempts to assimilate private schools into the state system, and sought to forge a new consensus in time for the general election next March.

Socialist ideology lost them the private schools' battle and the party's leaders, aware that it could contribute to their defeat in nine months' time, is seeking to establish a more pragmatic approach to education in line with the Government's dramatic move to the centre on general policy over the past two years.

Under the general theme of "French society and its schools", speakers evoked subjects previously taboo such as selective entry procedures to universities; the possibility of parents choosing schools outside their neighbourhood (most of the 10 per cent who get round the present restrictions are themselves left-wing teachers, delegates admitted); greater independence for individual schools and universities and even competition between establishments.

As one education ministry official, M. Daniel Gras, commented afterwards: "There is a definite move away from ideology towards more concrete objectives, but opinions vary on how we should enter the next phase."

As M. Lionel Jospin, the party's general secretary, told an audience composed mainly of teacher and administrative officials with a sprinkling of industrialists: "In 1981, we thought we knew all the answers, but some of our ideas have proved mistaken."



Lionel Jospin, Socialist Party General Secretary

There was no point, he said, in licking wounds sustained in the private schools' war, although he did remark that if school teachers in the state system had supported their schools as ardently as parents has rallied to that of private ones, the outcome might have been different.

M. Jospin was responding on the Sunday morning to swingeing criticism for the Left's educational record from the leader of the main teachers' union, M. Jacques Pommeret, who had put a damper on any festive spirit still lingering from the previous evening's "Republican Banquet".

The wounds, he said, went deep and: "The feeling among teachers is one of tension, dissatisfaction and even bitterness. It's a far cry from the high hopes of May 1981."

While his union approved of the Government's priorities and of its campaign to rehabilitate education in public opinion, resources allocated to this end should be made public if its aims were to appear credible.

Much, he said, remained to be done. Too many teachers, for instance, were still not being trained for their jobs: "When will we in this country stop confusing teacher training with the acquisition of a university diploma in other subjects?"

M. Jean-Pierre Chevènement, Education Minister, pointed out that at 180 billion francs the education budget is second only to defence, and he anticipates a period of growth and expansion in secondary and higher education. There has been a decrease of 500,000 pupils in primary over the past five years but lycées have taken an extra 200,000 since 1981 and we expect 80,000 more next September.

He believes the ultimate aim should be for twice the present number of university students (950,000 by the year 2000). "We have already created 4,000 extra teaching posts and more will be needed."

Alarm at decline of birthrate

Japan's school-age population has reached its lowest level since 1920. The National Statistics Bureau has reported that the number of Japanese under the age of 15 has fallen to 26.7 million this year, 13.5 million boys and 12.8 million girls.

The number of babies born last year was also down to 1.49 million, the lowest figure for nearly 90 years. Japanese teachers are beginning to worry over the implications of the figures for the future of teachers and schools. If present trends continue, in 10 years' time Japan's school-age population will be down to only 17 per cent of the total population.

£3.9m Kenya aid

Britain is to spend £3.9 million of its overseas aid budget on helping Kenya to improve science teaching in secondary schools. The money will be used to build and equip 56 laboratories and to provide training for science teachers.

LETTERS

Most immigrants are white

Sir - Ronald Butt's article giving his views on the historical perspective to the case of Ray Honeyford (TES, May 24) rests on foundations of ignorance and misconception. Ignorance, because he appears not to know that the majority of immigrants in Britain are white and that their inflow has never been seriously restricted. The largest immigrant group in the UK is the Irish, and there are no immigration controls between the UK and Ireland. All EEC citizens have the right to come here to seek work without restriction, as do Commonwealth citizens with a parent or grandparent born here. Numbers are not recorded in detail. But the fact that this information is not widely known, and that there are no calls for restrictions on these groups shows that the public debate on immigration is

only concerned with blacks and Asians.

Mr Butt's article is misconceived in its assumption that British culture (whatever that is, and it means quite different things to people from different parts of the country, and of different social groups) is somehow more desirable than that of the Indian sub-continent. Why is it an "educational disadvantage" to a British child, white or Asian, to speak and read Urdu? With the increased ease and lowered costs of international travel, and with friends or family roots in Pakistan, there may be more Bradford children who voluntarily visit Pakistan than Germany. Increased understanding of different cultures, surely valuable in itself, is enhanced by understanding the language. There is, as far

as I am aware, no suggestion that English should not be taught in Bradford schools or that it should not be the main medium of instruction. Children who travel here to join their parents (often after years of delay imposed on them by the British immigration control system) should be taught English, but should not be allowed to forget their original land and language. Children born here, who may be completely bi-lingual and speak Urdu at home with the parents and perfect English in school, may never learn to read and write Urdu if this is not taught at school (where the majority of children learn to read and write their English mother tongue).

Latin and Ancient Greek are still taught in many schools and will not be of practical use to children even "occasionally behind a shop counter". They are taught because they are important to the roots of a part of British culture and some parents and children wish to learn archaic languages for this reason. A living language and culture is surely of equal use to today's children.

The process of education is supposed to be a "leading-out" of innate qualities in a person; the benefits of the different cultures and languages of people living in Britain should be recognized and developed and shared, not kept out of mainstream institutions.

FIONA MACTAGGART
General Secretary
Joint Committee for the
Welfare of Immigrants
115 Old Street
London EC1

Sport problems

Sir - I read with interest Dr John Kane's understandably defensive reaction to the article printed in your Second Opinion Column (TES, May 17).

As a graduate of Loughborough College and as a head of a large physical education department for many years, I feel I am rather more familiar with developments associated with sport in our school system than Dr Kane would seem to suggest.

I have nothing but admiration for the physical education profession, but I am deeply concerned that, through lack of financial and moral support, their responsibilities are becoming increasingly difficult to fulfil. The facts to which Dr Kane can, to the benefit of us all, address himself are less than reassuring.

Why is it that on the national scene: physical education colleges are being closed; there has been a failure to implement a comprehensive policy of school sports facilities to the advantage of the community and physical education advisers are declining in numbers.

In the West Midlands: a survey in one local authority showed only 2 schools out of 21 now play inter-school basketball.

In the South West: 21 out of 55 schools give less time to physical education, 12 schools give no time to swimming for 14-year-olds, one in five pupils are non-swimmers.

In London: An under 16s schools football final was cancelled; only 12 out of 48 primary schools now enter the London Cricket League.

It is these and related issues that are the concern of the CCPR. We only hope that Dr Kane and his colleagues can find a solution.

NIGEL HOOK
Senior Technical Officer
The Central Council
of Physical Recreation
Francis Street
London SW1

Race policies

Sir - I have recently become aware of a level of concern that Margaret Weller's reaction to her experience at an AACAA meeting (TES, April 19) might be interpreted as an expression of the attitude of the City of Sheffield Education Department towards racism.

I would be grateful for the opportunity to clarify the position; the Sheffield City Council and its education service are strongly opposed to racism. Few would dissent from Margaret Weller's view that racism is not a simple issue, but there can be no doubt that institutional racism in our society does result in inequality of opportunity and other forms of discrimination against black people. The policies of this authority aim to eliminate discriminative practices, to create an awareness of racism and to work towards its eradication.

Black teachers and other black workers may find it necessary to meet

to enable them to develop programmes which contribute to the realization of the above aims. It is our policy to encourage and support such groups through the provision of resources eg accommodation and, in certain cases, grant-aid. Quite clearly such groups pursue anti-racist objectives.

Most of the effort in Sheffield is through black and white colleagues working together, and an essential part of the approach is through the encouragement of a frank and vigorous debate on the causes and effects of racism.

To engage in this debate and to advance it successfully, it is essential that white workers demonstrate an awareness of the context and scale of the problems posed by racism.

W S WALTON
Chief Education Officer
Leopold Street
Sheffield

Warnock's error

Sir - I note with some pleasure that Lady Warnock (TES, June 7) has discovered the latest "contribution" to educational theory and practice from Scruton *et al.* to be defective in analysis. However, it is disturbing, (as well as incorrect), for Lady Warnock to assume that political education in schools will necessarily mean the indoctrination of pupils.

Indeed, indoctrination has no place in schools, and good education must devote itself to satisfying the needs of pupils by equipping them for the practical circumstances in which they must live. If our education system is concerned with the promotion of autonomy and does not take full account of the complexities and political concepts of a modern democracy, then it is defective.

MIKE PETERS
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Threatening behaviour?

The statistics generated by the Home Office backed research show that the Leeds system is successful in getting most truants back to school. However, no research has been undertaken to find out how well those who return do at school in terms of their behaviour or attainment. Mr Hullin, meanwhile, is keen to see the Leeds system spread to other areas and quite regularly advises those who are experimenting with it. "The lessons of Leeds should be learnt elsewhere," he says. There are some who would agree with him for very different reasons.

FRENCH LESSONS

Yves de Saint-Do describes the rather different approach to teacher assessment and conditions of service in France.

Entry to the teaching profession in the centralized French education system is usually by passing a highly competitive examination. This is taken at a *département* (the equivalent of a British county) level for primary teachers after the *baccalauréat*, or at a national level, after completing a university postgraduate course, for secondary teachers.

Depending on the competition, one enters a definite body of teachers to which one can belong for the rest of one's career. The three main ranks are *professeur de collège*, *professeur certifié* or *professeur agrégé*, the latter being the most prestigious group.

Another method of entry to the profession is to be appointed as an auxiliary teacher and qualify as a permanent teacher through a satisfactory assessment.

Before competing, in these examinations the applicant undertakes to serve the State for a period of 10 years. In exchange, the French Government is bound to provide a post for those who successfully qualify until the last year of their profession (minimum ages of retirement are 61-65 for secondary teachers and 55-60 for primary teachers).

The area and school to which teachers are then appointed are decided on a national scale by a joint committee (today largely replaced by computer). The newly appointed teacher is invited to express preferences, the satisfaction of which largely depends on the grades obtained in the exam as well as on personal circumstances; whether they are married or have children for instance.

Teachers rarely get what they ask for at their first appointment owing to the necessity of providing teachers for the most populated, and less favoured regions of France (the North, North East and Paris suburban area). The first job is occupied for a minimum period of five years.

A teacher's duties are counted in terms of so many teaching hours per week. The higher the teacher's qualification, the more senior his pupils, the fewer the hours he has to teach and the higher his salary scale. To these duties are added the usual activities such as parents' and staff meetings, and examinations supervision and marking. But participation in extra-curricular club activities is on a voluntary basis. French teachers do not have to perform such duties as registration or supervision of school meals, nor do they stand in for absent colleagues.

Like everyone who has passed State organized competitive exams, teachers have the status of civil servants even in private schools. They belong to the State, which grants them security of employment, a salary scale and promotion, a pension, personal guarantees and disciplinary procedures. In exchange for these, the State feels entitled to control, assess and sanction the manner in which the profession operates.

Assessment is continuous and only terminates with the last year of a teacher's career. Primary teachers are under the supervision of primary school or nursery school inspectors as well as of the *Inspecteur d'Académie* (head of county education authorities), but not by the head of the school (apart from French schools abroad). It is different in secondary schools (*Collèges* for the 11 to 15-year-olds and *Lycees* for the 15 to 18-year-olds). There the assessment is dual.

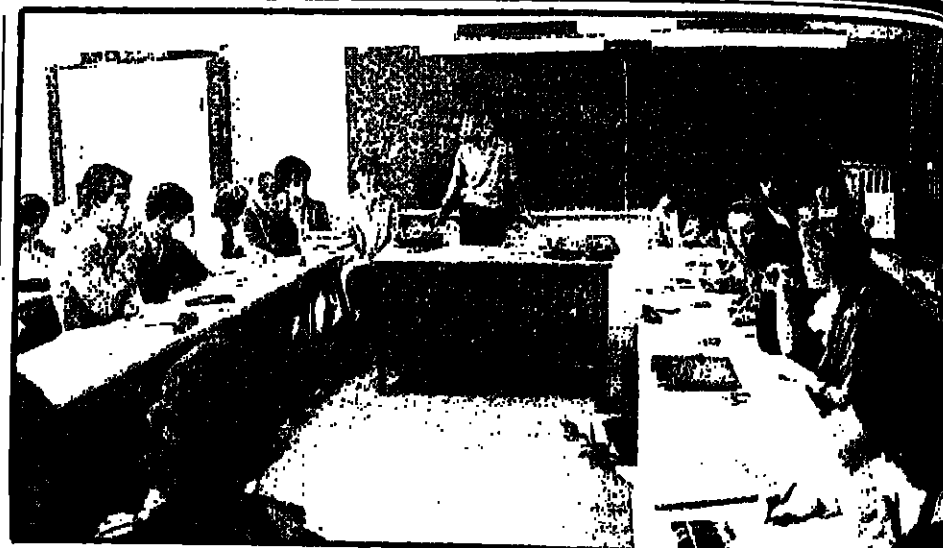
Annually, the head of a secondary school draws up a short report on each member of staff - teachers and others - and sums it up with a mark, out of 40. Both the report and mark are based upon such items as activity, authority, efficiency, assiduity, punctuality and repute.

The head is not supposed to appraise the teaching techniques which is the responsibility of the inspectorate. He sends his appraisal to his immediate superior, who can either accept or correct the proposals and return the final marking, actually attributed by the *Recteur* (head of an *Académie* comprising several *départements*).

The inspectors, either national or regional, visit teachers in their classes every two, three or four years, sometimes more rarely. Nowadays, inspections are often carried out on personal requests from teachers themselves. The outcome of such inspections is a teaching mark out of 60 decided by a national college of inspectors for each discipline. Both the *Recteur's* and the inspectors' marks are added and finally set after adjustments at all administrative levels, by joint committees. Thus the headmaster and inspectors share the teachers' appraisal and each can counterbalance the influence of the other if necessary.

To give an idea of the marks, a beginner would get an average administrative mark of 30 out of 40; a satisfactory career should get 39%. The educational mark scale is wider and more subject to the idiosyncrasies of the inspectors or disciplines to which they belong: 45 out of 60 is a good mark; 51 excellent.

If teachers are not satisfied with the mark or the



Photograph: Janine Wiedel



opinions expressed on them they can appeal to the local committee where members of the State administration and trade unions are equally represented. These committees have the power to modify the assessment.

The final mark is taken into account in two main circumstances: change of school and promotions.

In most cases, a change of post is requested by the teacher for personal reasons such as the wish to teach in a *lycée* rather than a *collège*, to teach in a larger town, or to join the general southward drift. In rarer cases, changing school population may lead to the cutting of posts in some places and shortage of staff in others. In both cases the

A Paris suburban *lycée*. 'Most populated... least favoured'

appraisal, as well as other criteria such as experience help those responsible in the appointing of staff to new posts. The inspectors' opinion is of great importance in filling posts in the most sought-after schools.

Assessment principally carries weight in promotion. Each salary scale is divided into a certain number of grades or increments (usually eleven). Given that a teacher's career will last a minimum of 37½ years, the top of the scale may be reached in 20 to 30 years according to the pace of promotion. The total salary earned in the long run may therefore vary considerably.

A minority of the best-assessed teachers at the top of their scale may also be promoted from their own category to a higher one (say, from *certifié* to *agrégé*). In a given year one ninth of the promotions available are allocated in this way. For instance, if 1,800 jobs of *agrégés* are being offered in one year, 200 of these will be *professeurs certifiés* raised to the title and salary scale of *professeur agrégé*.

Thus, promotion enables one to remain fully involved in teaching and does not necessarily imply removal from the classroom. But a teacher may also be a candidate for administrative positions such as head, deputy head or inspector. These are different professions altogether (heads no longer teach) requiring personal application. The selection is also operated on a national scale after a series of opinions expressed by the relevant authorities.

Thus, then, is the system in a nutshell. It is open to continual research, criticism and reform. As a whole it seems to work in as far as it prevents excess of authority, allows clear mutual information and dialogue. Personal influence of any kind other than purely professional thus ought to remain alien to the management of personal careers. It is, however, questionable whether it could be applied to a country which has traditionally favoured local initiative rather than central power.

Yves de Saint-Do is headmaster of the *Lycée François Charles de Gaulle* in London.

With half an eye

One in five of the children with severe reading difficulties may just not be seeing straight, Annette Gartland discovers.

doing so would improve their reading.

Of 200 children referred to the Royal Berkshire's orthoptic department during the study's first two years, 148 were two years short of their expected reading age. Over two-thirds (68 per cent) of these were found to lack a fixed reference eye.

Half of the 148 children were given patched glasses to wear for reading and writing. Half of those who lacked a stable reference eye developed one, and two-thirds made more than six months reading progress in addition to the progress expected over a six-month period. So their average reading age increased, in total, by more than 12 months.

The other half of the children studied were given plain glasses. The reading age of those lacking a stable reference eye was found, on average, to increase by only five months over the six-month period.

For the subsequent six months these children were then given patched glasses. Half gained a fixed reference eye and their reading age increased by an average of 12 months.

Some of the children not helped by the eye patch had deficient hearing, or sequencing difficulties. They would find it unusually hard to list

tasks, through two eye pieces and the orthoptist marks their response to movement of an image. For valid interpretation, the Dunlop test requires a very experienced and patient orthoptist.

Dr Stein considers the test lacks objectivity, relying too heavily on children's subjective reports of what they see. "More research is needed, including actual measurement of eye movements."

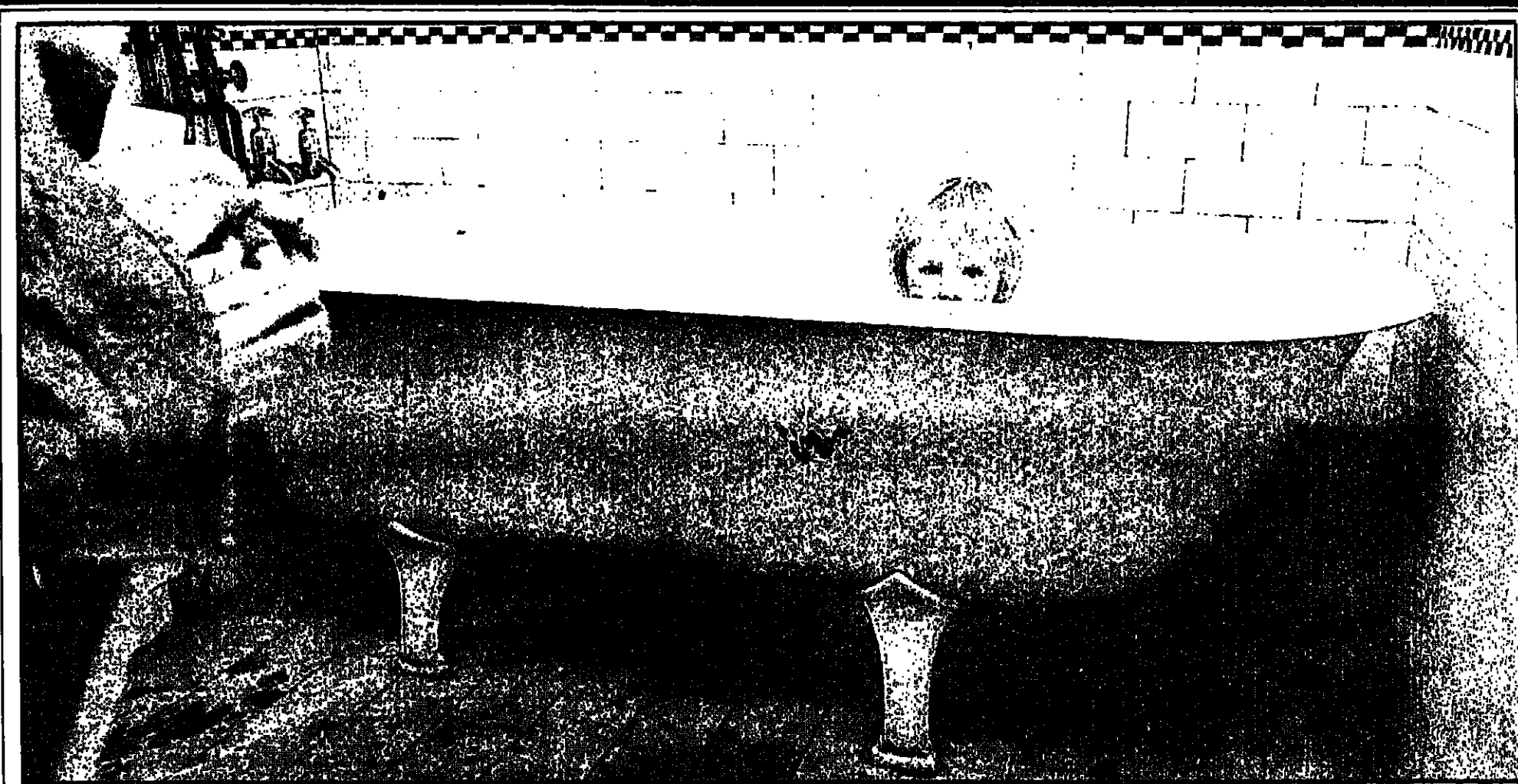
The three-year study ended in April last year. This year, with funds from the Peel Medical Research Foundation, the team got the equipment needed for such measurement and obtained further confirmation of their original findings. Dr Stein considers the results a breakthrough, eager for more schools to become involved in the research and would like to extend it to include adult non-readers.

He emphasizes, though, that "dyslexic" children should not indiscriminately be given patched glasses. It doesn't help children who have a fixed reference eye and may hinder their reading slightly. In a child under five it might even cause blindness.

"Dyslexia is nothing to do with straight visual acuity," adds Dr Stein. The standard eye test, using a wall chart, sheds no light on the problem. Dyslexic children might do well in such a test. Many children with generally poor vision learn to read perfectly well.

"People find our results difficult to accept because it is such a simple concept," he says. "We were not discovered before because no one had searched for it."

The research is continuing at the Ascot Heath county infants school, Berkshire, where 50 pupils are being tested by Mrs Fowler and their reading progress is being assessed.



POOR OUTLOOK

Ruth Lister finds little comfort in the Government's benefit review for those caught in the child poverty trap

In 1985, it is families with children who face the most difficult problems. This is one of the main conclusions reached by Norman Fowler's review of the social security scheme. A special analysis of official statistics carried out for the review showed that families with children now account for over half the people on low incomes, defined as those in the bottom fifth of the income distribution. Other figures from the Central Statistical Office show that, as a proportion of all households in the bottom fifth of income, families with children increased from 7 per cent to 17 per cent between 1975 and 1983.

Will the proposals put forward on the Green Paper *The Reform of Social Security*, tackle effectively this increasingly serious problem of child poverty? The complete absence of illustrative figures in the Green Paper make it impossible to answer this question other than at a very general level. But all the indications are that the answer must be "no".

The reviews have been carried out within a "nil-cost" framework which severely restricts its scope. In so far as more resources can be directed towards the poorest families with children, it will be at the expense of families who are not quite so poor and at the expense of the poor without children.

The Green Paper puts forward two new benefits aimed directly at poor families with children: family credit for working families and family premium for those on supplementary benefit (SB) which is to be renamed income support.

In 1981, the last year for which official figures are available, more than 1.75 million children of working families were being raised in poverty or on its margins (i.e. on incomes up to 40 per cent above SB level). Family income supplement (FIS), the benefit designed to help these poor working families, is received by only about 200,000 such families on behalf of 450,000 children.

'The onus is still on the family to make a claim'

The family credit that is to replace FIS will be paid by employers through the pay packet, as an offset against tax, or in the case of non-taxpayers, as an addition to gross wages. The onus is still, however, on the family to make a claim to the Department of Health and Social Security, which will be responsible for assessing eligibility.

In nine out of ten families on FIS, the mother is not in paid employment. The payment of the credit through the pay packet represents a serious blow to the widely accepted principle that money

for children should be paid to the person with the main responsibility for the day-to-day care of the child - in most cases still the mother. In a recent MORI poll 77 per cent of those questioned thought that benefits for children should be paid to the mother. This principle inspired the switch from child tax allowances to child benefit and reflects the belief that, by paying such benefits to the mother, they are most likely to be spent on children's needs. This is supported by some empirical evidence which suggests that this is not always shared fairly within families.

It also reflects recognition of the importance to mothers, not in paid employment, of having an independent source of income. In the words of Emma Nicholson, vice-chairwoman of the Conservative Party, it provides women with a degree of "economic freedom".

The involvement of employers in the payment of family credit is likely to discourage claims. Moreover, claimants will have to reapply every six months, instead of every 12, and will have to produce 13 week pay slips instead of five. Take-up of FIS is already appallingly low (50 per cent).

The Green Paper states rather vaguely that "the scope of the family credit scheme will cover a wider range of income" than FIS. The Child Poverty Action Group has made some very rough calculations of the likely gains to poor families on the basis of the limited information provided and various leaks. For a family with two children aged under 11, we calculate that the gain might be around £4.50.

Those with older children will gain more (as there will be a degree of age-related in the assessment) but many of those also receiving housing benefit will find much of the gain wiped out in housing benefit cuts. But, in any case, much of the gain from the family credit is itself illusory. For school-age children, any gains must be set against the loss of entitlement to free school meals. Those with younger children will lose the right to free welfare foods.

In future, free school meals will be confined to children on the new income support scheme which replaces SB. As reported in *The TES* (June 7), this means nearly half a million children will lose the right to free dinners. The majority of these will not receive any compensation through family credit, as they will not qualify for it. At current school meal prices, averaged out over the year, the average weekly loss will be about £2.10 a child (or £2.40 in the non-metropolitan areas).

About two-thirds of local education authorities provide free school meals for children of families who do not receive either SB or FIS. (In Scotland and Wales, the proportion is even higher). To deny local authorities the right to provide discretionary free meals goes against the spirit of the

1980 Education Act, which was largely justified on the grounds of giving local authorities more say in the provision of local services. As the recent *TES* feature on child poverty (May 10) noted, medical research suggests that the withdrawal of free meals could prejudice the healthy development of poor children.

Around two million children are currently being raised on the SB headline. Under the new income support scheme, there will be a special family premium for anyone with children, together with an extra premium for one-parent families. No indication is given of the likely level of these premiums, although leaks suggest that the general family premium is unlikely to be more than about £5 or £6.

'Inadequate to meet even children's basic needs'

Any extra help for families with children on supplementary benefit is welcome, if long overdue. All the research into the standard of living of those on benefit shows that it is families with children who suffer the greatest hardship. And a study of the costs of children carried out for CPAG showed that the supplementary benefit children's scale rates were inadequate to meet even children's basic needs.

There is, however, no suggestion that these rates will be improved. The Green Paper asks for views on a possible restructuring of the age bands but does not even suggest that there might be an overall improvement in their real level. A modest family premium is no substitute for the significant improvement in the children's scale rates which has been widely advocated. In particular, such a premium will provide proportionately less help to larger families who, research shows, have the lowest living standards.

For those with a child under five, £2.50 of the new family premium will have to compensate for the loss of the heating addition they currently receive. Under the income support scheme, all weekly additions for special requirements will be scrapped and the money put into the basic scale rates, augmented by a number of special "client group" premiums. One-off lump sum payments to meet special needs will be replaced by a discretionary cash-limited "social fund" which will, in many cases, make loans, recoverable from weekly benefit. The idea of such a fund, which denies claimants any legal rights, has already been widely condemned.

Just about the only payment which will be made, as of right, out of the fund will be to meet the costs of a new-born baby. A grant of about £75

will be payable to mothers on family credit or income support, plus possibly some other low-income mothers, in place of the current universal maternity grant. The use of what is likely to become a stigmatized fund to pay the maternity grant will no doubt mean that many mothers in need of help with the substantial costs of a new-born baby will fail to claim. Many others will not even qualify.

At the other end of the age range, the Green Paper is deafeningly silent about the tangle of financial provision for 16 to 19-year-olds. The only suggestion pertaining to young people still in education is that students should no longer qualify for supplementary benefit or housing benefit during vacations.

Overall, despite its recognition of the needs of low-income families, the Green Paper appears to hold out little real hope for them. Child benefit has traditionally received strong all-party support as the most effective weapon for tackling child poverty without all the problems associated with means-testing and without isolating poor families. Yet, although the Green Paper pays lip-service to its importance, it also contains a clear hint that it will no longer be increased in line with prices, so as to help finance the new family credit.

Downgrading the importance of child benefit relative to means-tested support for children was expressly rejected in a letter to the Prime Minister earlier this year from nearly 40 organizations representing children, families and women as well as the "poverty lobby". It ignores the weight of much of the evidence put to the review. Many organizations argued for a big increase in child benefit, possibly funded by the phasing out of the married man's tax allowance. Many also called for an investigation into the minimum costs of children as a basis for deciding on an appropriate level for child benefit.

An analysis of family policy in Western Europe suggests that such an investigation should have been the starting point for any coherent review of child support. "European experience certainly suggests that as a first step towards developing a coherent policy on child support, it is essential to establish the costs associated with children. Equally necessary is debate, followed by explicit decision, as to how the costs of children should be apportioned," says Lawson, Walker and Townsend in *Responses to Poverty* (Heinemann, 1984). No such investigation and no such debate have taken place.

Ruth Lister is director of the Child Poverty Action Group. The CPAG's commentary on the Green Paper, *What Future for Social Security?* is available from CPAG, 1 Macklin Street, London, WC2B 5NH price £2.

مكتبة الأصل

BOOK REVIEW

Review

Political Parties in the Republic of Ireland. By Michael Gallagher. Manchester University Press £15.00. 0 7190 1742 4. 26.95. 1791 1.

What kind of country: modern Irish politics 1968-1983. By Bruce Arnold. Jonathan Cape £12.50. 0 224 02463 3. £3.95. 02971 1.

Religion and the Northern Ireland Problem. By John Hickey. Gill and Macmillan £15.00. 0 7171 1115 6.

Pig in the Middle: the army in Northern Ireland 1969-1984. By Desmond Hamill. Methuen £12.95. 0 413 50800 5.

Ulster's Uncertain Defenders: Protestant political, paramilitary and community groups in the Northern Ireland conflict. By Sarah Nelson. Appleton Press £4.95. 0 914651 98 3.

An economic history of Ulster 1820-1939. Edited by Liam Kennedy and Philip Ollenschaw. Manchester University Press £25.00. 7190 1750 5.

That abrasive poet and critic, Tom Paulin, recently remarked that Belfast is now seen as a centre of "cultural production", rather like the Aran Islands 80 years ago. Though he was referring to the outpouring of drama and fiction on Ulster themes, the same holds good for the products of historiography, political science and sociology. None of the books under review would have been written in the same way before 1969; most would not have been written at all. And they present a picture of "politics" as distinguished by cultural, religious, temperamental and tribal identifications which the events of the past decade and a half have thrown brutally into relief.

This is not all to the good. There is an accompanying tendency to see political and other patterns in Ireland, North and South, as dictated deterministically by British interference. Gallagher's book, a useful gazetteer of Irish political parties, grapples with the question why there is no noticeable Irish socialist party and avoids the easy answer of blaming Britain. He cautiously disagrees with other authorities who despairingly find all Irish parties appealing across a heterogeneous class basis. "politics" is a small impact on partisanship, everything else has even less impact. But in glossing the findings of an interesting survey covering "the Irish public's ratings of themselves and the political parties on a left-right spectrum", a sad footnote says it all: "about a third of the respondents were unable to answer the questions."

Why this should be so continues to perplex scholars, and has provoked some of the best work to appear in the last 10 years or so. (Incidentally, though Gallagher discusses the tenacity of the old 19th-century party-political patterns even after the rise of Sinn Féin, his bibliography does not list David Fitzpatrick's luminous *Politics and Irish life: provincial experience of war and revolution 1913-1921*, which started many hares that are running still.) Gallagher deals with Fianna Fáil as a political culture and Fine Gael as a political party, which is understandable; but there is more to be said about Fine Gael's adroit use of the spangled Irish Labour Party in enabling it to square social-democratic circles. The tiny parties further left receive some interesting analysis (though they remain in a position analogous to that of the Irish family-planning clinics - accessible to the intelligentsia but ignored by the working class). But is the Workers' Party successful in the South in proportion as it forgets about the North? Gallagher's book is a very useful guide to the identities and performance of Irish political parties, but cannot pretend to answer the perplexing problems which such a survey raises.

No more can Bruce Arnold's rather odd performance. Though pretentiously saddled with an epigraph and title from Beckett (not to mention a completely gratuitous reference to T.S. Eliot on page 183), it is basically a narrative run-down of the political scene in the Republic from the first Northern Ireland Civil Rights marches to the 1983 election. A prologue dramatically recounts how Arnold's phone was tapped by the Fianna Fáil administration, which whets the appetite for revelations; but these are in short, to journalists, gallop through a catalogue of economic shocks, financial scandals and political crises; on this level, it may serve as a nostalgic glossary for those who remember the Bula mining affair, the Knock airport fiasco, the Stardust fire horror, and the exposure of the Duke of Norfolk connaisseurs, an extremely funny photograph of Liam Cosgrave in an armoured car.)

But where narrative gives way to reflection, Arnold offers little that is new and the fundamental question (which brings us back to Gallagher's book) is never really answered: how



A sea of troubles

Roy Foster on some new political and social analyses of events in Ireland

far was hard-line Republicanism a latent presence in Southern political ideologies, called forth by the events of 1968-69? And how far was it an issue that prevented itself as a god-given flag of convenience? Mr. Gallagher's current self-presentation as a Republican, born and bred, squares oddly with much of his early career. It is a pity that Arnold's book was written without access to, for instance, the no-holds-barred interview enterprisingly taped by an "alternative" Dublin newspaper which recorded The Boss's statesmanlike reflections of the record ("I could instance a load of fuckers whose throats I'd cut and push over the nearest cliff, but there's no percentage in that").

An aspect of the current Irish political scene left to one side by both Gallagher and Arnold is sexual politics, Irish style - the contraception, abortion and divorce issues which have brought religious identification back into central focus as a mode of confessional politics. John Hickey's book takes the religious theme and firmly re-establishes it; to the extent, indeed, that he gives a rather simplistic historical view of Protestant-Catholic relations (especially in the later 18th century) and oversimplifies, for instance, the current stance of Belfast Republican Clubs, (which are not really representative of the old-fashioned confessional nationalism with which he identifies them).

He does, however, assert an extremely important point: "The religious divide in Northern Ireland is not based purely on the symbolic membership of a group with different political ideologies, but is rooted in different interpretations of the Christian faith which, in turn, help to form attitudes as to what 'society' and its institutions should be about." And in many ways, the postwar economic forces which diminished social differences between Protestants and Roman Catholics threw into greater relief their major self-perceived ground of difference, which was religion and all it stood for. Indeed, the developments in Northern Ireland during the 50 years from 1920 exactly parallel the developments in Ireland as a whole during the second half of the 18th century. A Protestant upper class monopolized government, and kept the relationship between the two communities mutually stable; but as a new Catholic middle class developed, along with a percussive of economic readjustments, the old stasis broke down. Once the dam reform, instead of buying off revolution, made it

community study conducted on religious lines; much of his book is a commentary on the attitudes thus displayed. Here again the same message comes through: "social conditions that encourage mixing across the religious divide may also be significant in provoking violence and hostility among those groups on both sides who wish to emphasize their irreconcilable differences." The briefing received by the British Army before its unhappy involvement in Northern Ireland seems to have missed out on these subtleties, as well as on any kind of historical framework; some grounding, perhaps, in the folk memory of the Black-and-Tan era might have given cause for thought.

Desmond Hamill's absorbing study demonstrates a tragic combination of theoretical ignorance and operational expertise on the Army's part. He takes an essentially journalistic approach (which owes nothing to conceptual studies like Charles Townsend's brilliant *Political Violence in Ireland*), and the many quotations (frequently memorable and important) are madly innocent of reference. This is all the more challenging when the opinions quoted (and implicitly agreed with) seem highly questionable - such as the claim that the Army did not "fall into the trap of spiralling alienation which by all the classic theory is what should have happened". The "classic theory" seems rather well demonstrated in Derry and the Falls. But there is much of enlightenment both about personalities and policies; figures like the anonymous "young scientific officer" at the MOD who first pressed for effective counter-intelligence operations (of the kind which brought Captain Nairac to his death) come through as at least as important as Sir Harry Tuzo (an opponent of internment, in these pages). The general theme is the uneasy relationship between police and army, and the eventual development of "Ulsterization", by which a redeployed police force would gradually replace the army. An ultimate "solution" advanced by an unnamed soldier relies rather unrealistically on demography producing a North into the South "about 2006". Hamill's book is an "Army view" in more ways than one, and it provides some of the most valuable insights into official thinking yet available.

Pig in the Middle makes an intriguing contrast with Sarah Nelson's impressive survey of Protestant attitudes in the early 1970s. Where Hamill produces a generalized definition of Protestant paramilitarism, seeing the UDA as a rather

amorphous umbrella organization and the UVF as implacably anti-reformist, Nelson's book profiles the resentments between the two organizations at local level, and charts the UVF's rise with constitutional politics ("From Soldiers to Politicians and Back"). The subtitle on the cover ("Loyalists and the Northern Ireland Conflict") expanded on the title page, to embrace "Proximate political, paramilitary and community groups". (Appletree Press are also responsible for a much more annoying anomaly, in wasting very attractive job of printing on hopeless binding; two copies of the paperback fell to pieces in my hands.)

In taking on this under-researched area, Nelson has provided a source of real value; as with Hamill's very different book, the strength of the study lies in having gone out and talked to people. The Protestant working-class mind in the early 1970s is profiled, in its resentment of upper-middle-class Unionists ("the fur-coat brigade") as well as its firmly-held beliefs about Catholics, who supposedly burn down their own streets to gain attention: Nelson's protagonists are caught between "Malone Road snobs and pampers rebels". The development of community organizations in the early 1970s, the uneasy feeling out across the divide, and the utilization of local community structures by paramilitary groups provide important themes; the development of the short-lived and uneasy Volunteer Political Party provides a paradigm of how class politics shimmers like a mirage above the sterile descent of confessional identification. But the VPP ended, as does Nelson's study, in a diminution of suppressed hopes and reconverted fatalism. What remains is a demonstration of the complexity and uncertainty of beliefs held by a community too often written off as monolithic.

In the long run, the most enlightening of these books is the most academic study, which will inevitably be the least read. Kennedy and Ollenschaw's collection of essays on the Ulster economy traces the roots of differentiation, and fills in the great gap between 17th and 20th-century Ulster - so often smoothly elided by those who dismiss, for instance, Paisley as a "Catholicism hunger". These essays delineate patterns of uneven modernization, land hunger, the fortunes of the linen industry vis-à-vis that of cotton, the highly regionalized effect of the famine, and the recurring impressions of travellers since the late 18th century that in this part of Ireland things were mangled "resembling the best parts of England, rather than anything I had previously seen in Ireland". On every level, the Ulster economy must be defined in historical terms as "regional"; its great 19th-century base was a "region" of British industrialization, and its 20th-century decline a function of the same phenomenon. Moreover, in Ollenschaw's words,

One estimate around 1820 put the ratio of Protestant to Roman Catholic capital in Belfast trade and industry at forty to one, and at the end of the nineteenth century was pointed out that virtually everyone engaged in commerce in Ulster was a Protestant. It was not merely the process of industrialization but Protestant control of that process that gave the political economy of North-east Ulster its unique character.

Religion again. Within the province (North-east versus South-west) and even within Belfast, the old divide reassorted itself: recruitment within a variety of industries, and even emigration patterns, broke along the same lines. Henry Patterson, one of the new generation of Ulster historians attempting a non-simplistic Marxist approach, contributes here an essay on labour which confronts the question whether sectarianism inhibits a strong labour organization or not; he comes down on the side of more basic structural reasons, and implicitly argues that "national" identity is not a precondition for "socialist" consciousness. D.S. Johnson's piece on the 20th-century Ulster economy is less convincing when it argues about the prevalence of sectarian attitudes by means of statistics; variations in the number of "incidents" cannot quantify the overarching reality of a repressively sectarian mentality. But the essays in this Ulster add up to the best work yet on the Ulster economy, during the period when economic events did more to reify and articulate the traditional antipathies within Ulster society than the popular view of history will yet allow. A grasp of this salient fact is the essential underpinning necessary in order to reap real benefit from reading Nelson, Hamill and Hickey; while a grounding in the development of the Republic's uneven rural economy would illuminate much of Arnold's and Gallagher's findings as well.

Spaces and societies

The Human Geography of Contemporary Britain. Edited by John R. Short and Andrew Kirby. Macmillan £15.00. 0 333 37315 4. £5.95. 37316 2.

Elements of Human Geography. By Charles Whyne-Hammond. Allen and Unwin £5.95. 0 04 910081 5. An Introduction to Agricultural Geography. By David Grigg. Hutchinson £12.95. 0 09 156710 6. £6.95. 156711 4.

Rural Britain: A Social Geography. By David Phillips and Allan Williams. Basil Blackwell £22.50. 0 631 13238 4. £7.50. 13237 6.

Conceptual Frameworks in Geography series: The Geography of Rural Resources. By Christopher Bull, Peter Daniel and Michael Hopkinson. Oliver and Boyd £6.50. 0 05 003636 x. **Space and Society series. 1: The Region** (1582 35356 4. 2: **Interaction** 35353 x. 3: **Urban Systems** 35357 2. By Andrew Kirby and David Lambert. Longman £1.75 each.

Migration and Geographical Change. By Philip Ogden. Cambridge Educational £7.50. 0 521 22686 4. £3.95. 22687 2.

Teachers planning sixth form human geography courses already have an embarrassingly wide range of sources to choose from. The latest titles won't make that choice any easier.

Charles Whyne-Hammond's *Elements of Human Geography* is already well known since its first publication in 1979. It appears now in a revised second edition placing "greater emphasis on the societal or welfare dimensions of human geography, in keeping with syllabus trends". This is a well-planned, comprehensive book which should be high on the shortlist of anyone seeking an all-purpose human geography textbook for use in the sixth form.

The Geography of Rural Resources in the excellent Conceptual Frameworks in Geography series is illustrated with a number of interesting

video discs or the unseen machinations of computer data processing.

Computers are, however, only tools and machine intelligence is as artificial as an artificial flower - impressive to look at from a distance but none the less unreal. Reality is different and one gets some flavour of it from reading *Follow the Map*. John Wilson does for maps and the countryside to which they relate much what the late Alec Clifton Taylor did for the architectural heritage of many of our towns - he blows life and enthusiasm into our perception. His guided tour of the world of Ordnance Survey maps relates to the 1/25,000 and 1/50,000 series which, although in terms of numbers within the series are but a small fraction of what the Ordnance Survey produce, are the best known to the public. The text is well illustrated and concentrates as much upon the richness of the landscape as upon its relationship to the map.

The Ordnance Survey Map Skills Book takes a broader view, covering large as well as small map scales. Divided into three sections and aimed at the 16-plus age group, it starts at an elementary level for the benefit of those unfamiliar with map reading. The second section is concerned with examination skills and builds upon the initial basic techniques. The final section is entitled "life skills" and is concerned with a wide range of day-to-day problems for which a map might be a useful tool. Maps, illustrations, text



maps and diagrams but the overall impact is that of a worthy rather than an exciting textbook. The series is geared as much to polytechnic courses as the sixth form, so its readability level, the rather limited nature of its subject matter, combined with excessive length (for the topic), will only commend it to students following an in-depth rural geography course.

In this context it is likely to be compared with Basil Blackwell's fascinating *Rural Britain: A Social Geography*. In this stimulating new study, David Phillips and Allan Williams examine the social disadvantages of the countryside (such as rural deprivation, housing, employment and accessibility problems). Regrettably, like John Short and Andrew Kirby's *The Human Geography of Contemporary Britain*, David Grigg's *An Introduction to Agricultural Geography* and Philip Ogden's *Migration and Geographical Change*, it will probably only be purchased by school libraries in order to fulfil specific course objectives rather

than swell the printed resources of the geography room as a matter of course. A more essential purchase (and priced accordingly), is Longman's new series *Space and Society*, with its objectives firmly targeted on "the sixth form, with A-level students of a wide range of abilities". Each of the three titles, with uninteresting cover, is in small paperback form of some 70 to 80 pages, and is illustrated with black and white line diagrams, maps and rather murky-looking photographs. However, this lack of visual appeal is more than compensated for by sheer utility. All three books provide succinct and effective coverage of their subject and the format makes the series ideal for use by students working on different essay topics.

In fact, the books have been designed to complement the standard textbooks, not to replace them. "We have designed the books as 'readers'", say the authors in the Preface, "that is, free-standing volumes that elaborate on particular topics, fleshing out the bare bones introduced within the textbook."

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Mapping Skills is aimed at the upper primary level. It is a series of over 200 ring-bound black and white pages designed specifically for photocopying - copyright is waived as long as the copies are made for classroom use within the school by which it is purchased. In addition there are teachers' notes and answers to problems posed, a number of which should encourage cross curricular activities. The maps have been specially drawn and do not conform to national standards but do provide a good introduction to the skills necessary to read national maps. This is very much a practical book facing the unfortunate economic problems which beset schools today.

P. F. Dale

Reading signs

Follow the Map - the Ordnance Survey guide. By John G. Wilson. A & C Black £4.95. 0 7136 2459 0. **The Ordnance Survey Map Skills Book.** By Chris Wain. Arnold Wheaton £3.45. 0 560 66710 8. **A First Course in Mapwork.** By Ralph T. Hare. Macmillan £3.95. 0 333 32825 6. **Mapping Skills.** By Tom A. Dodd. Oxford University Press £12.50. 0 19 918157 8.

For over a decade now the Ordnance Survey has been working on what has become known as digital mapping, using computers to draw maps and to process map data. New technology not only replaces or transforms many of the traditional skills in map making, but has already begun to change the ways in which we interpret and use the information on maps. Machines can design highways, select optimum routes and control the navigation of other machines. It has even been suggested that the days of the paper map are over and that the future lies in

North vs South

An Unequal World. By Alan Gilbert. Macmillan Education £1.95. 0 333 376390.

Agriculture in Developed Countries. By Terry Coppock. Macmillan Education £1.95. 0 333 348095.

Geographical Studies of Development. Edited by P. P. Courtenay. Longman £5.95. 0 582 354854. **World Survival.** By Graeme O'Flynn. The O'Brien Press £10 and £5.95.

Books on development issues appear to account for a significant portion of the current output of geography texts. The growing interest in and awareness of the "North-South" problem has rightly become a key topic on the syllabus, and can be used as a starting point for enquiry into the more traditional areas of the subject. These books all concentrate on the relationship that exists between nations in the world economic order, and attempt to explain how an understanding of this link is vital for an appreciation of the problems faced by the less developed countries.

Unequal World and Agriculture in Developed Countries join the excel-

lent list, now 21 strong, of the Aspects of Geography series. These provide concise, relevant and topical introductions which are accessible to the A level student, and easy to read. The strength of this series is that the books take potentially complex and detailed subjects and reduce them to manageable, yet stimulating portions.

An Unequal World examines the links between rich and poor countries, the author clearly stating his aim - to draw attention to the reasons for exploitation of the latter by the former. The booklet looks at the problem of how to define the "Third World", and how definitions are so often bound up with outside views of the world. It reflects the rich developed countries in perpetuating the relative poverty of three-quarters of the world's population is a major theme, and is explained in terms of the dependency factor which the rich create and continue. The influence of the multinational company in dictating this economic relationship is also discussed. The writing is clear, readable and lively, and the political line is consistent and challenging but without dogma and ideological rhetoric. As an introductory primer it would be hard to beat.

Agriculture in Developed Countries Terry Coppock has skillfully reduced a large topic by concentrating on making the student aware of the choices farmers have to make about the systems they adopt. The approach is solid, and less contentious than the previous booklet, but it does give a good general overview of the current issues affecting farming. An interest-

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A more essential purchase (and priced accordingly), is Longman's new series *Space and Society*, with its objectives firmly targeted on "the sixth form, with A-level students of a wide range of abilities". Each of the three titles, with uninteresting cover, is in small paperback form of some 70 to 80 pages, and is illustrated with black and white line diagrams, maps and rather murky-looking photographs. However, this lack of visual appeal is more than compensated for by sheer utility. All three books provide succinct and effective coverage of their subject and the format makes the series ideal for use by students working on different essay topics.

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Philip Sauvain



A peasant woman bringing her produce to market - an illustration from Trilby Haynes' *Honduras*, one of the latest titles in Burke's "Visit" series (£3.95. 0 222 00959).

ing section on the farmers' perception of the environment, their battle between optimism and pessimism, leads on to an examination of attitudes in farming, and the importance of tradition and inertia in creating farm practice. The conclusion considers the impact of a possible decline in fossil fuels on farming methods, and how changing diets might affect the relative importance of animal rearing and crop production in the future.

Geographical Studies of Development is a collection of material originally written for A level students in Australia. It has been revised and adapted for use in Britain, though the scope of examples and references still reflects its origins - not a negative factor as such, but with limited budgets and a wide choice of books available, teachers could find this a disadvantage. The contributions vary considerably in the standard of writing, originality of approach, and ability to cover the topic in sufficient depth. This does give the book a lack of coherence, and only serves to underline its fragmented nature. The chapter on cultural pluralism in Canada is stimulating, as is the section on rural development in Malaysia. The remaining studies are largely predictable in their coverage: useful for background information but limited for case study detail. A section on the effects of development in Japan makes no mention of the acute overcrowding in some areas, and the pollution problems - a serious omission. Some of the statistics from the early 1970s (pre-OPEC price effects) are too dated, and many of

the photos chosen are rather bland. The picture of the Bolivian child "facing the daily chore of hauling water from the public tap" shows a happy smiling face. All photos approximate to the real world, but in many instances our only images of the Third World are obtained from selected pictures, so they must be carefully chosen and their limitations recognized. The book would be best used as an additional reference for the library rather than as a general classroom text.

World Survival - the third world struggle examines the factors which contribute to poverty, and aims to improve our understanding of the North-South relationship. The approach of the book is direct and clear, it sets out the main causes of poverty covering climate, food, soils, water, and energy, and is very readable. The role of women in the Third World has its own chapter, describing their changing status in many countries, and their involvement in agriculture, industry, and the family. A case study on breast versus bottle feeding shows up the problem of disease, misunderstanding, and the frequently cynical role of some multinationals in their selling of milk powder. The author makes the point that much of our information about the Third World comes at critical times such as during famine and disasters, and this inevitably distorts our images. This book gives an alternative, rather personal view of a well-covered subject.

Andrew Powell

CHILDREN'S LITERATURE

The marriage of words and pictures in books for very small children is particularly crucial. Chances are, if the words are too clumsy, inane, or dull the reading adult will simply abandon the book, however enticing the pictures are to the young audience. Contrariwise, if the words have dignity and humour as prose, reading will become a prolonged pleasure for all, witness the prolonged success of Beatrix Potter - not the easiest of stylists for the playgroup years.

Berlie and the Bear by Pamela Allen (Hamish Hamilton £4.75) is a variation on the cumulative chase, with the bear chasing Berlie and being in turn chased by all sorts of people. "that is, free-standing volumes that elaborate on particular topics, fleshing out the bare bones introduced within the textbook."

Urban Systems examines central place theory, rank-size relationships and the British urban system. *The Region* looks at natural, socially-made and perceptual geographical regions and considers the problem of drawing boundaries. *Interaction* examines themes such as diffusion, migration, mobility and location.

Libby Oscar and Me by Bob Graham (Blickle £5.50) is a rather more chaotic story of disguise and play between Emily (a little girl), Libby her witch, and Oscar her dog. Although the narrative varies uncertainly between appealing to children and adults, and is really more like a string of cartoons, with a joke for the grown-ups at the end. In contrast, *The Knight, the Princess and the Dragon* by Helen Craig (Walker Books £4.95) is a spoof of the knights-of-old type of adventure story told with two pigs and a stuffed crocodile at the *dramatis personae* which is beautifully written from the adult point of view but somewhat over the heads of under-fives, who are likely to find the pretty watercolour drawings fascinating but the switches between "real life" and fantasy bewildering. And how do you explain that a stuffed crocodile both is and isn't a dragon? Not to mention the testing of a pig's romantic ardour through trial by dragon.

Rodney Popp knows his audience rather better. In *Murrah for Henry* (Methuen £3.95) that articulated elephant, as ever the slave of circumstance, is involved in two adventures, dreaming of what he would do "If Henry Were Anybody", and chasing up Peg doll's naughty dog Mortimer in "Helpful Henry". These are simple stories with easy catchphrases which glide by. Tomie de Foa's perfect illustrations have found a good match in Mary Had a Little Lamb (Anderson £4.95) where the classic words and music (with, surprisingly, a learned fore and after-word) are restfully accompanied by neat little figures skipping through idyllic countryside. Here, of course, the words are 19th century churchy, but the cadence and the tune are strong enough to hold children's attention and the illustrations draw them to learning the song.

Victoria Neumark

Margaret Mahy has won the Carnegie medal for 1984 "for an outstanding book written for children" with *The Changeover* (Dent). The runner up was Robert Swindells with his post-nuclear story *Brother in the Land* (Oxford University Press). Popular illustrator Errol Le Cain won the Kate Greenaway medal for his illustrations to Longfellow's *Hyla's Childhood* (Faber). But's medals are awarded by the Youth Libraries Group of the Library Association.

BOOKS

BOOKS



Upstairs, downstairs

Jaci Stephen on a century of mining literature



Top left: D.H. Lawrence; above: P.J. Kavanagh

If there is a recognizable "tradition" of mining literature, it is of the "Upstairs, Downstairs" variety: "upstairs" being the life taking place above ground, in particular the cosy life of the pit owners; "downstairs" being the life of the miners - servants of the upper classes - below. The picture of exploitation is a familiar one which, during the miners' strike of the past year, has been painted many times. Maurice Jones, editor of *The Miner*, says that, "Rarely, if ever, can a dispute have released upon the world such a flood of talent as the miners' strike of '84". Writing in the introduction to the anthology *Against the Odds*, a collection of poems which appeared in *The Miner* during that year, he goes on to say that, "It is as though a dam has burst, bathing and enriching the land in the waters of creativity".

Worthy causes may certainly inspire literature; they do not automatically make it good. The poet Idris Davies, born in 1905 in the Rhymney Valley where he worked first as a miner, then a teacher, wrote in an unpublished diary: "Too many 'poets of the left' as they call themselves, are badly in need of instruction as to the difference between poetry and propaganda." The statement is just as applicable today. Sincere though the sentiments expressed in *Against the Odds* may be, the "passion and love, sadness and humour" must not be confused with the qualities that go to make up great works of art. Although for their content the poems are inspired by a strong belief in the bravery and courage of 150,000 striking miners and their families, for the most part their structure is dependent upon nursery rhyme rhythms and trite rhyming schemes. To take a typical example:

The miner is a man apart,
Stout of limb and stout of heart.
None shall dictate his way of life,
He fights for his children, his home,
his wife.

Emile Zola's *Germinal*, published in 1885, is one of the great landmarks of mining literature. The struggle between capital and labour, management and miners - takes place in a coalfield in northern France during the Second Empire (1852-70). Zola's own struggle against poverty compels him to adopt a tone of cynical detachment towards the upper classes. Here, "poor, oppressed, starving, are sent to beg at the house of one of the pit owners."

The lady and gentleman sat silent in their comfortable arm-chairs, for this exhibition of poverty was beginning to upset them and get on their nerves.

The life of a miner is shown to be that in which a child's leaving home to marry can bring destitution to a family dependent upon his/her income; a life that survives on hand-to-hand credit or, failing that, bought by prostitution; a life in which violence is the only means available to express anger and carry out revenge. Men, women, and children of both sexes toll under poverty; Zola is at his most powerful in portraying scenes of crowd violence that are the result of this mass sense of hopelessness.

An excess of rancour was bursting, a septic boil of long, slow growth. Years and years of anger were now torturing them with a lust for massacre and destruction.

Violence is not a thing to be admired, but is, nevertheless, an inevitable result of circumstances and, as such, forgivable. "Brutes they might be, but they were brutes who could not read and were dying of starvation."

As the miners' hardship increases under a management who try to pay them less for doing more, Zola's ironic tone sharpens. Gregoire, a member of the bourgeoisie, is genuinely shocked at the miners' outburst of violence: "... so it must be true, then, that these miners were capable of resorting to his living peacefully on their work!"

D.H. Lawrence points to the same struggle between capital and labour, a struggle which he sees taking place between Will (the government) and Matter (the miners). Life in the mine is representative of what Lawrence sees taking place in society as a whole. In *Sons and Lovers*, he calls it the "instinct for life."

Incandescence by thought and spirit, compared with "the dusky, golden softness of this man's serious flame of life, that flowed out of his flesh like the flame from a candle."

The miner is closer to nature, to "real" life; but unavoidably, for the woman, the "real" world is the nagging effect of poverty and the need to provide for her children. Morel's drinking is therefore a home of contentment - financially, and also its after-effect (his violence) - which alienates him further from his family, though "He would dearly have liked the children to talk to him."

This painful lack of connection between the worlds of "darkness" and "light" makes *Sons and Lovers* unique in the tradition of mining literature. The sexual instinct that so strongly unites miners with women against the bourgeoisie elsewhere, is missing. There is deep pain in the loss of unity between two basically different species: Morel is merely part of his wife's "circumstances" while "His soul would reach out in his blind way and find her gone," leaving him with "a sort of emptiness, almost like a vacuum in his soul."

In the novels of Lewis Jones, a Rhondda-born (1897) miner and Communist, it is Len Roberts, a boy growing up in a South Wales mining community in the Rhymney Valley, who is the phoenix figure to rise up and play *The Corn Green* (which opened recently at the Old Vic). Privately educated by Miss Moffat at a "school" she opens in a mining community to prevent children from having to go down the pits, Morgan wins a scholarship to Oxford. He has the desire, on having seen the other side of the world, to be given the final push over; to the corn of green.

Len Roberts puts his knowledge to use in his own community. In *Cwmardy* (We Live is its sequel), he first hears about socialism from his friend, Ron. During an almost fatal illness when his pay is stopped, the realization "that he suddenly sees himself as a slave and the pit as his owner. It is the same situation that Orwell, in writing about the lives of miners in *The Road to Wigan Pier*, recognized as being the "passive" role of the worker and the fact that "He

does not act, he is acted upon" and feel himself "the slave of a mysterious authority." In *Cwmardy*, this passive role is reflected in the number of miners who fall victim to accidents at the pit. In Len, the pit is a "monster" which "eats and spews up the men who are made 'sacrifice' to it. Their life is analogous with the situation of war - the workmen, soldiers, the pit-boys, the black's boys set just prior to the outbreak of the First World War."

Mining disasters have always featured regularly in mining literature and are often the inevitable result of neglect on the part of the management and therefore a symbol for the destruction of the workers by their bosses. In *Germinal*, a mine is sabotaged, resulting in many deaths of the "scabs" who have broken the strike. A strike called because of the management's refusal to recognize the needs of the mining community - the means to basic survival. And yet it is through destruction again that new hope is born. When Etienne is finally rescued from the pit, he weeps with an official, "pouring out the deep springs of their common humanity. Into their bitter grief entered all the misery of countless generations, all the immeasurable wrong of human life." Etienne's farewell to Maheude, a woman who has lost most of her family at various stages of the troubles, is still one of hope.

But in this handshake of hers he felt the same long, affectionate grip, with its silent promise to be there on the day when the struggle was resumed. He read the message of calm faith in her eyes: goodbye until the big day.

The deep springs of common humanity are opened up following the atrocities of a mining disaster. In *Cwmardy*, it coincides with the appearance of smaller wages and, taking place at the outset of the book, is the means by which the community is woken up to the non-caring attitude of the management. It is the fear he experiences on the night of the explosion that grips the young Len Roberts and lives on in his mind as a fear of the pit itself and all that it stands for: death and destruction. And once he had gripped this fact it was easy for his fertile mind, egged on by the storm and the horrible loneliness, to conjure up pictures of burned and mangled bodies. He had seen his

father, among the dead, his body shredded into flesh-dripping pieces.

Conflict between management and miners is common enough in mining literature, conflict amongst miners themselves is of a different nature. In *Germinal*, it takes the form of sexual rivalry, in *Cwmardy*, all too frequently drawn blood after a night at the pub, then there is the more fundamental conflict over the method of dealing with the bosses. Zola's Etienne is an outsider and when the mine becomes dysfunctional when the miners' indifference to their transfer their allegiances elsewhere. Like all leaders, Etienne experiences "the inevitable reaction after defeat, the necessary reverse side of popularity."

In Harold Redrup's *Last Cage Down* there is a more direct conflict between two leaders in the mining community. Heshup was born in 1898 and worked as a miner for 12 years before he began to write novels. *Last Cage Down* is the story of an industrial conflict in Durham coalfield where the ambitious, leader, Jim Cameron, who is content with Joe Frost, a Communist miner, meet different sides of the same coin.

Harvey been out of print for decades, it is now to be hoped that Penguin's book will achieve a readership. Heshup has a good ear for dialogue and a unique ability to go back from the emotionalism of the moment to the objective observation of the behaviour of the miners who are torn as a group - particularly during their meetings or when being instructed to take action. Heshup never explains his image, and the diversity of one image, in different circumstances, rhythm in different circumstances, is an energy characteristic of Lawrence in the belief that if real changes in the relationship between workers and bosses are to come about, a "shattering" and "uprooting" is needed.

... so that the whole world could release its pent-up energy, the creative energy leashed in the bounded strength of the workers, the toiling peasants throughout the world so that out of the great strength of them could flow the newer, the higher, the eternal energy of mankind.

Even in the wake of another miners' strike, we continue to live in hope.

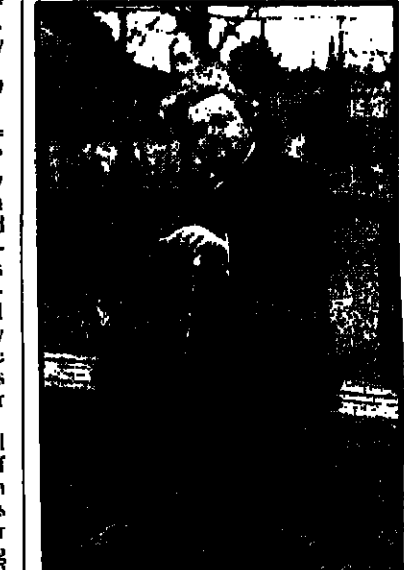
A striker of sparks

The Bodley Head G.K. Chesterton, Selected and with an Introduction by P.J. Kavanagh. The Bodley Head £12.95. 0 370 30579 5.

"I have no feeling for immortality," said Chesterton. "What I value in my own work is what I may succeed in striking out of others." It has needed P.J. Kavanagh's selection, made enthusiastically 50 years after Chesterton's death - a small step towards immortality - to strike a spark from this reader. I had summarily abandoned him in my headmistress's drawing room where she used to read Father Brown stories aloud to her "girls" as we did our needlework.

Chesterton's lightness of touch and refusal to speak seriously of himself became, as Kavanagh points out, a stumbling block to the growth of his reputation. The popularity of Father Brown (whom, on his one showing here, I still find tedious) lingers, and his tremendous ability to tackle major themes - Christianity, democracy, family life - in a few thousand, or even a few hundred, words has faded. He presented himself as a "jolly journalist" and, says Kavanagh, "the phrase has affected his reputation." Yet "He is as much a political writer as George Orwell."

Chesterton overworked to the point of total collapse. Articles, books, essays, poems, were produced at a frightening pace as he brought his mind to bear on most of the controversial issues of the first three decades of this century. He had a spatial way of thinking; his words were not extruded loosely like ticker-tape, but were organized into shapely constructions. He'd started as an art student, and quite



frequently used geometrical forms as metaphors.

He was a teacher who did not duck awkward issues. As early as 1908 he had realized that jargon was increasingly becoming a means of evading complex problems. Easy to say "The social utility of the indeterminate sentence is recognised by all criminologists as a part of our sociological evolution towards a more humane and scientific view of punishment," he wrote, because "you can go on talking like that for hours with hardly a movement of the grey matter inside your skull. But if you begin 'I wish Jones to go to gaol and Brown to say when Jones shall come out,' you will discover, with a thrill of horror, that you are obliged to think."

He mistrusted generalities and political "solutions", knowing it is far more difficult to do justice to a group of differing but deserving particulars than to improvise a rhetorical palliative. He was a born democrat who also became by logical steps, a Christian. One of the chapters included from his book *Orthodoxy*, "The Paradoxes of Christianity", which was written when he was just beginning to believe and long before he became a Roman Catholic, is an exhilarating explanation of his arrival at a position of faith. Usually I find it difficult to follow such spiritual journeys entirely, but this was rather like reading an account by a mountaineer which takes me to the top of Everest even though I get vertigo when I stand on a chair.

The mechanically hard edges of rationalism were anathema to him. He was a generous man, who wanted society to learn to tolerate, indeed to celebrate, the opposing forces inescapably woven into its fabric. There was no ultimate rule book, either social or celestial. Mysticism and common sense alike consist in a sense of the dominance of certain truths and tendencies which cannot be formally demonstrated or even formally named."

P.J. Kavanagh claims Chesterton to be "one of the greatest intellects England has produced". Great in his combination of range and penetration certainly. "Any man with a large mind ought to be able to write about anything," he said. It wasn't a boast, rather the positive reaction of a man who felt at home in the world. And it is the fate of polymaths to be neglected, by a society of mistrustful specialists who feel insecure when the neat fences that separate them are removed.

Paddy Kitchen

The Honours - and honour

The Honours Systems. By Michael De La Noy. Allison and Busby £9.95. 0 85031 614 6.

How honourable is the Honours System? That question underlies the cries of outrage and indignation which inevitably accompany the twice yearly issue of Honours Lists.

In *The Honours System* Michael De La Noy traces the system back to the Age of Chivalry when peerage indicated loyalty and service to the Monarch. From then it came to be seen purely as a sign of social standing. That is where the dishonour crept in. Ever since Tudor times people have been inventing high born relatives, coats of arms or seals in order to obtain a peerage.

More recently, Lloyd George was

notoriously involved in the wholesale buying and selling of titles for up to £100,000 a go. His frontman, a dubious character called Marquid Gregory, would invite aspirant peers up to his Whitehall office, which was equipped with a phoney dispatch box, buzzers for nonexistent secretaries and a dummy hotline. Then, with abundant charm and persuasion, he managed to make people part with exorbitant sums for a peerage Lloyd George would provide.

The setting up of the Honours Scrutiny Committees in the 1920s was supposed to put an end to any misuse of the Honours System. But whether in fact the abuse has continued under more artful camouflage is a question De La Noy grapples with in the second half of the book. He asks whether subsequent prime ministers' practice of awarding honours for party loyalty (especially where that loyalty has man-

ifested itself in substantial contributions to the party coffers) is any more than a refinement of Lloyd George's method.

Even if the system is not consciously manipulated, De La Noy argues that its narrow establishment-orientated setting system seems to perpetuate some gross flaws and anomalies. Why else should civil servants and diplomats get the lion's share.

De La Noy's witty and entertaining account of the Patronage system is critical but not wholeheartedly condemnatory. There is still a place, he argues, for the honour of loyal and deserving subjects. But for those awards themselves to be worthy of the appellation "honour", De La Noy implies that we need a substantial overhaul of the system.

Kati Whitaker



Jack Daw and Mag Pie

Some people are named after birds or animals, with surnames such as Sparrow, Partridge, Bull and Hare or, less often, first names such as Mavis (thrush), Merle (blackbird) and Linn.

But it is not always realized that some animals and birds have come to be called by human names. The Jack-daw was originally just a daw, and the magpie simply a pie: Mag or Margaret was once a popular name for a country girl. In the case of the robin, the man's name has taken over completely from the original name of the bird, which was redbreast. (Compare modern French *rouge-gorge* for this bird.) The same thing happened with the French fox. Its modern name is *renard*, a fox's name corresponding to English Reynard or Reginald. Originally, the French word for fox was *goupil*, from Latin *vulpes*.

Adrian Room

PAPER BACKS

Two Towns in Provence by M.F.K. Fisher (Hogarth Press, £4.95. 0 7012 0610 1) is a personal evocation of Aix-en-Provence and Marseille. Fisher is an American gastronomic writer whose mixture of travelogue and autobiography is full of interesting anecdotes but, at times, inclined towards self-consciously "fine writing" as she tries to recapture the smells and tastes of the region.

Klingsor's Last Summer by Hermann Hesse (Tadpole Press, £2.50) brings together three novellas in an attractive edition, readably translated by Richard and Clara Winston, but with no indication of when they were first published. This makes it impossible to situate them in relation to Hesse's longer works with which they share some themes.

Low City, High City by Edward Seidensticker (Penguin, £6.95) is the paperback edition of an enchanting book, first published in 1983, and subtitled "Tokyo from Edo to the earthquake, 1867-1923". Edward Seidensticker makes no attempt to justify his demand that we should interest ourselves in this vanished civilization; his delight in it is justification enough.

Robin Buss

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مكتبة الأصل

With bullet-proof glass, state-of-the-art security, banks of elevators and every modern architectural device, the Florencia La Guardia High School of Music and the Arts is now, after a 25-year gestation period, operational: at 50 million dollars it must surely be the most expensive high school in the world.

It has been formed from the merger of the High School for Performing Arts (made famous by *Fame*) and the larger and more academically-oriented High School of Music and Art. The merger has aroused some anxieties about "identity" but they do, after all, share the same goal: to identify gifted young people and train them for a career.

The thousands of eager students who apply from the city's five boroughs each year are required to take an exam and an audition. In the case of Performing Arts and its strong drama department, the usual number is 3000, which is narrowed down to 75 or 80. The final selection, based on auditions and interviews videotaped by the chairman, is up to the judgement of the graduating seniors, who put the applicant through a series of theatre games, "jingles" and "machines" for example, the things that can't be prepared. Apparently, this method works: in 12 years, there has been almost zero attrition.

Both Performing Arts and Music and Art have an endless and impressive list of alumni. In theatre, Al Pacino, Ben Vereen, Helen Slater and Erica Cimpel are among the graduates; in dance, Arthur Mitchell, Edward Villella, Elliot Feld and Louis Falco; in music, Melissa Manchester, Eartha Kitt, and Pinchas Zuckerman, as well as Liza Minnelli and the late Freddie Prinze. Graduates of Music and Art include Peter Yarrow of "Peter, Paul and Mary", literary luminaries like Max Frankel, editor of the *New York Times*, author Erica Jong and others who have achieved distinction in a wide variety of fields.

'Fame' is ... a fake

The school which spawned the famous film has joined its musical sister institution in a famously expensive merger. Joan K Harris reports from New York

Distinction, not fame. "Fame costs," goes the opening line of the television series *Fame*. Many at LaGuardia feel that it has cost the school its image. Victor Cook, a senior voice major, says the series is "... in a way true, but in another way, it's a big fake. We don't get up and dance on the tables." Gabriel Kosakoff, assistant principal of Instrumental Music, says, "Fame doesn't exist and it never did." While showing me the magnificent new facilities in his department, which include a 24 head-set piano lab, practice rooms, storage cages for the instruments, an 8-track stereo recording studio, and even a repair shop, he remarks, "We're a serious professional institution, preparing students for conservatories and college." As we pass through a juniors' jazz ensemble class, a trace of anger creeps into his voice: "We are not put smokers and the like. Our kids are clean cut, honest citizens. It was a nice movie ... but it got us an image which was ... to be polite, misleading." He mellows again as we view the still-under-construction 1200-seat concert hall. This will have continental seating with plush upholstery, a rising pit, close to a million dollars' worth of electrical equipment, and different stage each for dance and for music.

The music training is classically oriented. Everyone leaves with a knowledge of piano whatever they have majored in. Everyone has four periods of music a day, and jazz becomes optional only in the junior year. What of those kids who leave to become "stars"? It occasionally happens, says Kosakoff, but must start to stay the course. Victor Cook seems a likely candidate for stardom after his graduation this month. A gifted singer, he performed solo with the NY Philharmonic at age 11. His special love is gospel, but he also acts; he has a leading role in the new film, *Camp Starlight*, shooting in New York this summer, which is expected to be big at the box office.

Waiting for Victor, I sit in on Edith Del Valle's solo voice class, who are rehearsing Bruckner's "Te Deum". The beauty of their voices and the intensity of their concentration is overwhelming. "Must want to perform," says Del Valle. "Some are ready for Broadway, some want to sing Rhythm and Blues. Many will go on to conservatory, and some of these kids are extremely successful at a very young age." Three of her past students are now at the Metropolitan Opera, and one in *The Tap Dance Kid* on Broadway. "Some, of course, just go on to be

doctors and lawyers and Mommys, but this training gives them the option to do what they want."

Victor Cook is small, wiry and has innate style. "I've learned a great deal of discipline and control here," he says. "For me, it's very special because I also get to direct the gospel choir. That gives me an opportunity for leadership." The youngest of 14 children, from a family of Pentecostal preachers, he started performing professionally when he was nine, appearing in Liz Swados' *Hagadah*. After that, however, he felt his career was over. Over at nine? Norman Lear, the television mogul, wrote a special role into *All in the Family* for Victor as an orphan who would be adopted by the Bunkers in the sit-com hit, but Victor's mother made him turn it down: education first.

"That's when a lot of kids were becoming stars ... *Facts of Life* [another sit-com featuring several kids] had just come out and I had my first doubts about ever making it," he sighs, but then adds with a grin "Now I feel different about it ... when your time comes, your time comes." Next January he starts at the Westminster Choir College in Princeton, New Jersey to study music education in order to "have something to fall back on." But if *Camp Starlight* is a smash hit and makes him a star? "If I like college, I'm going to stay there ... If the film makes it big and people want me, I'll still stay in college. They can always work around my schedule. As he points out, Brooke Shields and Jodie Foster have had no problems. Victor's fondest memory of LaGuardia will be the closeness of the student/teacher relationships. "They really care about you as a person." In one particular respect the television series is accurate, he says. "Academically, they're very hard on us. No matter how gorgeous your talent is, there are no favourites."

Like everyone else at the school, he is only allowed to perform professionally during summer vacations and during school breaks, but official school policy is to discourage even this. As assistant principal Abraham Beller says, "We have a saying around here: we want you to be good before you're famous."

Drama was and still is the most popular major at Performing Arts, and that department, as much as dance, has been the victim of the *Fame* fall-out. "Fame is the price you pay for success," says its head, Jerome Eskow. "It's a shallow goal, an unworthy goal. Most of the kids here don't want fame, they just want to work!" Most do thanks to a senior "Showcase", now in

its third year, which is performed for the industry as well as the public. Top casting agents, directors, soap-opera producers etc. are invited to attend, and about half of the kids walk away with jobs.

But only seniors perform for the public. Until then, students are guaranteed "absolute privacy", even from other LaGuardia teachers. They go through a rigorous three years of specialized work. The first year is devoted to the exploration of self and sensory perception, the second to the play and the playwright, and the third to the "extensions of self." "This is the place to fail," says Eskow, "not out there."

Because of the popularity of teen films, many of the students are graduating with a track record already in tow, from summer work or vacation television guest spots. Rainbow Harvest (yes, her real name) is a perfect example. Her first film, *Old Enough*, about two girls simultaneously discovering adolescence and class differences, came out two years ago. During her Christmas vacation she played a Spanish princess, who was also a police informer on the hit show *Miami Vice*, and that's already in re-runs. Her last role at school was Nina in *The Seagull*. She says, "I'd rather just work on scenes with my friends than be in a film that was doing nothing for anyone except taking their dollars." She graduates today.

With the market in teen films burgeoning, a particularly summer shooting, Rainbow is already going on auditions. "Sometimes, they think I'm too dark, or too light because I'm both. So, they're not sure what I am ... they still go for blondes," she says without a murmur. In today's teen market there's enough room for everyone. Eskow claims that he has changed his advice to graduating seniors from what it was 10 years ago. "I used to tell them to go to conservatory to wait until they matured a bit, but now, I say 'go out and work because the work is there.' Then, when you're 22, go to college."

The 10-storey building is far from complete and less than perfect. The actors, in the basement, have no windows, nor do the dancers. Ventilation is a real problem. And, all year, workmen have been painting, often while classes have been in session. Some of the actors have had throat problems due to the conditions. But what is being taught is likely to outlive any building. "The move was a snap," says Harvest, "when we came, we had to make a theatre, but we can make theatre anywhere ... as long as we're there."

discovered by a little girl called Simp, who learns to juggle just in time for the big carnival with the help of a little Blue girl. In return, the Blue girl is taught how to dance by Simp's friend.

The piece is energetically played by a cast of five and its conclusion is left open for teachers to follow up in later class work. These open ended conclusions seem to be becoming a Theatre Centre trademark, and it's one that's well worth pirating.

I'm not sure that it's necessary to remind primary teachers in the accompanying notes that "it is important for children to feel confident in themselves and have a positive sense of their own worth" or that "communication is a vital skill for everyone". However, the notes do go on to give some useful suggestions for follow-up art and discussion work, and include excerpts of the play so that children can create their own diorama-style puppet plays about the Reds and the Blues.

Nick Baker
For details of Peacemaker and other Theatre Centre plays, rings 01-354 0110.



Victor Cook and Rainbow Harvest

Radio Discuss

One of Beaumarchais' *Figaro* plays was set for A level French this summer. Radio 3 broadcast a sparkling production of a new translation by John Wells - on the evening of the day in which the paper was set. An unfortunate accident perhaps, but did nobody stop to think how it might have been so much more aptly placed (and win Radio 3 new, young listeners)?

Across on Radio 4, Bookshelf (Sundays, 6.30; repeated Thursdays 4.10) has been demonstrating its awareness of the real world. A fortnight ago it presented a very well made documentary to celebrate the golden anniversary of Penguin Books, revelling in nostalgia for the original white-handled covers (orange for fiction, green for crime, dark blue for biography) and also cheerfully stirring up some of the mud that has clouded the firm's more recent years. This last week Bookshelf turned its attention to set books.

"Modern literature is more relevant to the 20th century than the classics. Discuss." That was the question it set out to answer with the help of three authors who have been "rescued" from the past. It was here that the programme immediately ran into problems. While plenty of contemporary playwrights (and some poets) are set for study at O and A levels, few living novelists have achieved this ambiguous distinction but in the studio to answer how they liked being set for an examination were Richard Adams ("nothing but pleasure"), the Kenyan Ngugi wa Thiong'o ("mixed feelings") and Professor Malcolm Bradbury ("honour of a kind ... notion that you're being used").

There were some nice touches, such as the latter revealing that he tends to get letters from candidates. "Dear Mr Bradbury, I understand there is irony in *The History Man*. Can you tell me where it is?" Otherwise, there was rather a lot of non-communication with Ngugi wa Thiong'o suspecting Bradbury of keeping social issues out of the classroom. Richard Adams wanting to acquaint children with what is beautiful and Professor Bradbury countering, "I don't know what beauty is ... Nor do I know what reality is." He wanted his students to be aware of the literateness of literature.

As a programme, it was saved by the adroit chairmanship of Hunter Davies who seemed to know more about the subject than anyone else; and by the contributions of Paul Lapworth, chairman of the JMB A level English literature examiners. It was agreeably refreshing to hear him stress again that the examiners are not expecting to read received judgements. "We had a wonderful demolition job on Ted Hughes," he revealed with enthusiasm. "Brilliantly in focus." He also spoke of the set book committee, made up largely of teachers, which chooses the books. It did transpire that some get chosen because teachers like them; they are "teachable".

Nobody said anything about the financial rewards of being "an examined author" (and thank goodness) nobody said anything about structuralism. Nor did they really answer the question. The highlight was Alan Freeman's "Greetings, exam lovers" as he picked his way through the top of the pops (not counting Shakespeare). In the top 10 settings, no surprises (and only one living writer), were Foster, Hardy, Austen, and Greene; at number 11 Philip Larkin with *Whitsun Weddings*; then *The Dunes of Malindi*; Pausanias, Chaucer's "Prologue", and at number two and still going strong, that great blockbuster of 1847, *Wuthering Heights*. Number one? *Sons and Lovers*. All right? Stay bright!

David Self
How to Publish your Poetry. By Peter Heath (Allison and Busby £2.95, 0 85031 631 6). Manager of the Welsh Arts Council Bookshop, poet, and editor, Peter Finch is well qualified to guide the beginner through the maze of literary magazines and small presses. He does not presume to tell anybody how to write poetry, but he gives useful advice on the stern necessity of self-criticism and the discipline of presentation. He is stringent in his condemnation of any sort of vanity publishing.

Shirley Toulson

Danger: social engineers

Panorama (BBC1, June 17) administered a short, sharp shock to Tories who had clamoured for the Whitelaw régime for young offenders. Reporting from New Hall, the programme revealed that there are not enough hooligans to fill the detention centres, that after being shocked they are no less likely to reoffend than before and that drill periods, apart from producing fitter criminals, had been cut down because the boys enjoyed them too much. But the biggest jolt was Ben Lyte: instead of the expected Heinrich Himmler, the Kommandant of New Hall turned out to be probably more humane than most of these boys' fathers and mainly interested in teaching them to read (37 per cent are virtually illiterate) or to hate the babies they fathered when not engaged in violent crime. Not precisely, one feels, what Lord Whitelaw had in mind.

Misconceptions were also re-examined in *The Flight from Utopia* (BBC2, June 12) and the *Newsmag* report from Da Zhai (BBC2, June 13). The first of Patrick Nutgens' three programmes on modern architecture was predictably scathing about post-war planning. There is apparently no shortage of newscasters from the Fifties showing town councillors and architects smising heaven on earth

to anyone who would let them raze all existing buildings and hit every remaining town centre. One surprise may have been Nutgens' praise for the postwar school-building programme. Meanwhile, few viewers will have been astonished to learn that Da Zhai, a Chinese village held up as a model at the time of the Cultural Revolution, now appears from John Tusa's report about as ideal as a top-floor flat in Roman Point.

Young offenders and Tory hooligans, planners and people, confront each other across the divide of opposing value-systems; so do defence experts and disarmers. You could see them not talking to each other on *Diverse Reports* (Channel 4, June 12), which presented the case for "direct" (ie illegal) action against cruise missiles, and *A Week in Politics* (Channel 4, June 14) where Michael Heseltine, at the end of an interview with Peter Jay which must have left him hoping viewers were tuned to *Hawaii Five-O*, expressed delight at the high level of British defence spending and the fact that our forces are being modernized at "a very exciting rate". His excitement was not shared by everyone on the programme, but the defence experts featured in its report on Star Wars spoke a language far removed from the mundane unpleasantness of

violent death and fear of nuclear destruction.

The issues raised in *Diverse Reports* were less interesting than those raised by the programme. Right to Reply (Channel 4, June 14) confronted its producer with the accusation that his team had incited CND members to break the law. His response explored the distinction between reporting news and making it and revealed some of the devices used to create the fiction of realism in documentary - devices which, most of the time, we take for granted.

More illusions dispelled: *Union World* (Channel 4, June 15) went to Scotland's "silicon glen" to report redundancies at National Semiconductors. Redundancies? The electronics industry, even under foreign management, was supposed to create jobs. In other firms workers were finding that agreements limiting trade union rights deprived them of access to management decisions. It couldn't be, I suppose, the press and television that have helped to propagate the idea that unions exist solely to bring their members out on strike and have no function in the post-industrial society.

Robin Buss



"Actresses in Their Dressing Rooms", 1879-80

Cross-fertilizations

Edgar Degas: The painter as Print-maker. Hayward Gallery until July 7. Degas: His Life, Times and Work. Roy McMullen. Secker and Warburg £18.50, 0 436 27647 X. Degas: Pastels, Oil Sketches, Drawings. By Götz Adriani. Thames and Hudson £35.00, 0 500 09168 4.

In his lifetime, Degas exhibited only one sculpture and except for monotype landscapes shown in 1892-93, published only four prints. Yet he innovatively explored a greater range of materials and media than any other artist of his generation. A photographer himself, he absorbed the camera's discoveries into drawings, paintings and prints and, through an obsessive fascination with technical experiment, created almost single-handedly the thoroughly modern, mixed-media work of art.

Both Götz Adriani and Roy McMullen stress the cross-fertilizations that characterize Degas' unique oeuvre and this exhibition and its highly informative catalogue vividly reveal the extent to which one aspect of his work overlaps with another. A still wet monotype, sometimes conceived in a

different medium, could be transferred to a lithographic stone or, when dry, covered with pastel. Tracings from these permitted further transformations and the expansion into major works. Even sculpture like "The Tub", shown here along with several other key pieces, was made by combining a real dish and some cloth with a fully modelled wax figure.

What is complex in realization and meaning in fact proves to be immediately accessible in the finished work. Almost exclusively interested in urban subjects, Degas' oblique viewpoints, fore-shortened forms and off-centre compositions epitomize the dynamic, fragmentary experience of city life. A double bass looms over our and the musicians' heads in "On Stage" and layers of compressed space confront us in "The Lunches". If "Mlle. Béant at the Café Ambassadeurs" is the quintessence of public entertainment in a tawdry setting, the late nudes are a peep into the private world of women washing and drying themselves like cats.

Anyone approaching Degas for the first time could do no better than to read McMullen's very detailed account. It is surely the definitive biography. Beginning with Degas' grandfather, and the first French revolution, he builds up a convincing

picture of the artist's social and political allegiances and how these relate to the work. Thorny issues like Degas' support of the military and government in the Dreyfus case are judiciously dealt with and the delicate matter of his celibacy is carefully explored. The irony, however, is that this conservative, probably sexually impotent man should have turned out a radical artist and one who contradicted convention by showing women not as erotic objects but active, independent people. The importance of drawing and the human figure are beautifully illustrated throughout this very clearly presented exhibition. It is so well organized that a child could easily find its way about. Each technique is explained and all the separate stages in the development of a print are displayed (22 in the case of "Leaving the Bath"). As a source of inspiration and encouragement, it might well prove to be a revelation to budding artists, particularly since the monotype technique is essentially a cheap and simple one. As a tonic for us all, it is not to be missed.

Michael Clarke

ILEA teachers planning school party visits should contact Jacky Percy on 01-928 3144. A teacher's pack is available.

Striking

Amid the Standing Corn. By Jane Thornton. Soho Poly until July 6

Jane Thornton's play, *Amid the Standing Corn*, is far from the first piece of theatre to have been inspired by the year-long miners' strike which ended in March. It is unlikely to be the last - but it will be a hard act to follow, and it is by far the best play inspired by the dispute to have made it to the stage, in London at least.

Its greatest strength is its sure-footedness. Ignoring cloying sentimentality on one hand and crude political dialectic on the other, it deals exclusively with one small aspect of the strike: the way in which it politicized women in traditionally male-dominated mining communities. It introduces us to four, an amusing but representative Dadworth Colliery Four, from Barnsley, Lynn, Dot, Maureen and May are all married into the mining industry, and prior to the strike (and in the first few scenes of the play) their lives were solely devoted to looking after the physical needs of their husbands and sons. Their talk was of trips to the local Asda supermarket and of borrowing catalogues to order new curtains. They were only really themselves, and able to talk freely, during afternoon sessions at the bingo hall.

Once their menfolk do finally come out, however, and increasingly so it becomes clear that a package holiday to Spain will have to be cancelled and that the strike will not be over by Christmas, they harden and develop. Brandishing Women Against Pit Closures banners, they even go out onto the picket lines when only six months previously merely writing a letter to the *Barnsley Chronicle* had been a bold step.

It is a mark of Jane Thornton's writing that the women's dialogue, always precisely observed and naturalistic, reflects this change. They become increasingly articulate, but never windy; they begin to grapple with the issues, but on a concrete, domestic level.

Jointly produced by Soho Poly and the Joint Stock Theatre Group, the play was devised and written in close cooperation with miners' support groups in Yorkshire. Jane Thornton, director Carole Hayman and the original cast improvised and rehearsed scenes with the real-life counterparts of the characters they had created. And, although only one member of that original cast is still in the production, the whole process was obviously highly beneficial. All four performances (and each of the actresses plays at least four men and women) are faultless, full of accurate detail and observation.

Hugh David

Amid the Standing Corn will be visiting Deal, Brighton, Norwich and the Crucible Theatre, Sheffield after its run at the Soho Poly. Further details from Joint Stock Theatre Group, 01-388 97190.

Fitting in

The Magic Shadow Show, The Wolsey Schools Project Company, Sudbury Hall Upper School, Sudbury, Suffolk.

"It shows you what some kids have to put up with," said one girl after seeing *The Magic Shadow Show*. She was referring to parental nagging rather than nocturnal visits from Elizabeth I, Serge Diaghilev and Edward Fitzgerald. These three represent different modus vivendi to the adolescent Kate. The trick of course is to integrate the three attitudes. Diaghilev's struggles to choreograph his latest ballet on the Armada (his cast resembling Channel ferries rather than Spanish galleons), Fitzgerald as a cross between the White Rabbit and the Mock Turtle and Elizabeth flinging herself into disco dancing with all the abandon of the lavolta ensure that the "message" is kept free of solemnity.

But Nicola Warren plays Kate's miseries for real. Those vague adolescent grouches that sound so feeble

when articulated and yet hurt so much are sympathetically treated and the 12 to 13-year-olds in the audience clearly understood her feelings of "being got at", "not fitting in", "wanting to be left alone", all expressed in that anti-conversational indistinct nasal whine that so infuriates parents.

As is the way of dreams, Diaghilev and Elizabeth are simultaneously Kate's mother and father. It's eerily effective to have demands for artistic dedication or academic application suddenly voiced naturalistically in the middle of Eileen Ryan's and Grahame Caylow's florid, cross-dressed performances. Honestly enough the play can't offer Kate (or its audience) any easy way solutions, but it can, through Fitzgerald's (Patrick Bailey) disciplined hedonistic anarchy, offer sympathy and a way of looking at problems.

Jill Burrows

The Magic Shadow Show is available free to Suffolk Education Authority schools. Details and information from 01991 219911, Ipswich (0473)

Reds and Blues

Peacemaker Theatre Centre (touring London schools)

Theatre Centre's play for five to eight-year-olds is an entertaining allegory. Originally written by David Holman, it went through various stages before reaching this version which is colourful, bouncy and admirably uncomplicated.

The Blue Country and the Red Country used to be the best of friends, but a silly argument about a bridge over a river turned them into the worst of enemies. A war - cleverly portrayed by puppets made out of coloured plastic kitchen equipment - resulted in the building of a wall between the two countries. The audience sees the events from the Red side of the wall, and learns that Blues are horrible cannibalistic savages with hairy blue claws. The truth about the Blues is

discovered by a little girl called Simp, who learns to juggle just in time for the big carnival with the help of a little Blue girl. In return, the Blue girl is taught how to dance by Simp's friend.

Nick Baker
For details of Peacemaker and other Theatre Centre plays, rings 01-354 0110.

Among this week's contributors:

P F Dale is senior lecturer at North East London Polytechnic. Roy Foster lectures at Birkbeck College, University of London. Penny Kitchen's latest book, *Barnwell's story of a village*, has just been published by Hamish Hamilton.

Joan K Harris is a television reporter working in New York

Naomi Lewis' adaptation of E Nesbit's *A School Bewitched* illustrated by Erol Le Cain (reviewed June 7) is published by Blackie and not as stated.

Shirley Toulson

Next week

Articles and book reviews for English as a foreign language, and as a second language in schools; classics books

مكتبة الأصل

W J Sherratt on a new IT course for business studies teachers

Hands on business

The paperless office, cashless society and "artificially intelligent executive" may still be some years away. Nevertheless, information technology is making an increasingly significant and dramatic impact in the world of business and commerce. Teleconferencing, data banks, and robotic factories are with us now.

Modern business, fundamentally dependent upon the accurate and rapid handling of information, makes considerable use of networked computers. Such developments make it crucial that anyone teaching Business Education should have a good knowledge and understanding of the new technology, its applications and its implications, and that appropriate curricula and resource material be developed. It was on these bases that the DES-approved course "Information Technology for Business Studies Teachers" began at the City of London Polytechnic in September 1983.

This part-time in-service course runs for one day a week over one year. It is designed for teachers in schools and colleges who are involved in the broad spectrum of "Business Education", areas such as business studies, economics, commerce, accounting, office administration, and office practice. Although most of the course members have some degree of computer literacy before starting the course, no previous knowledge of information technology is assumed and there is no intention to produce computer specialists.

"Information Technology for Business Studies Teachers" has two principal aims. First, to give a knowledge and appreciation of information technology and its impact on the world of business and commerce. Second, to encourage participants to apply this knowledge to the teaching of business studies and related subjects, and to the development and updating of syllabuses and teaching materials. To meet these aims students follow a programme of lectures, seminars, tutorials, visits to outside organizations, and, most importantly, practical workshops.

The capabilities of the computer are investigated by working through a variety of business-oriented applications packages including databases, spreadsheets, wordprocessing, accounting, graphics, payroll, stock control, personnel, business games, and different types of computer-assisted learning programs.

In addition, students get experience of several different operating systems including CP/M, the highly sophisticated Unix and the VMS minicomputer systems. Course members are encouraged not only to be end-users of the packages but to search for the underlying principles of each and to evaluate how they might be used in teaching.

The policy within "Information

Technology for Business Studies Teachers" is to educate rather than to train. Quite deliberately teaching material is introduced which is wider than the immediate needs of the course members and which may not have an immediate relevance. It is hoped that this approach will help to increase the flexibility and forward looking attitudes among the participants, and the ability to cope with and even lead technological change.

So, although there is no intention of producing computer specialists, students get experience of five different computer languages - Basic, Prolog, Logo, Unix command language, and Microtext. Logo is introduced because of its educational potential and to draw attention to the work of Seymour Papert, which, it has been argued, applies not only to young children: Prolog (the language of the future?) has implications for the fifth generation computers; Unix command language illustrates one of the facilities available on this advanced operating system.

A total of some 10 hours' practical work is spent on these three languages. Some six hours is spent on Microtext, an authoring language which allows the creation of computer-assisted learning packages without any knowledge of "genuine" programming languages.

It is certainly open to question whether a substantial amount of programming is valid in a course intended mainly for "end-users", and, if so, whether Basic is the most appropriate language. However, the present feeling within the course team is that some competence in this sort of work does help to build up confidence, teaches something about the working of computer systems, and goes some way in the process of demystification. Moreover, as most present-day educational software is written in Basic, a reasonable knowledge of the language will allow teachers to contribute more fully and usefully to teams developing new computer-based resource materials. Having said that, the role of Basic in the course is being kept under constant review.

The "hands-on" experience is centred mainly on a network of BBC microcomputers with each course member having his own machine. In addition a variety of other machines are used. These include a multi-user Onyx microcomputer with the Unix operating system, a VAX/VMS minicomputer, several stand alone personal computers including IBM and Philips models, and six different dedicated wordprocessors.

The intention is to provide a thorough knowledge of the BBC system and a working ability with all the other machines, thus giving the experience and confidence to be able to turn to any new system. This "hands-on" experience is considered so important



that some 120 hours - about 60 per cent of the total teaching time - is given over to individual work on machines.

The lecture programme is wide-ranging and covers the technical and theoretical sides of information technology, its applications and implications, and curriculum issues.

The applications and implications area covers issues such as the impact and use of IT in the fields of business and commerce, the automated office, data protection and privacy, changing work patterns, the Alvey and other reports. Examples of curriculum matters include analyses of evolving syllabuses and examinations, strategies for teaching about and with the new technology, computer-aided profiling, the development of computer-based resource material, and interactive video.

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What's That?

Fact pack £2.50

The Broads Authority, Thomas Harvey House, 18 Colegate, Norwich NR3.

Let's Learn About Fish Set of 21 posters with teachers' guide and spiral duplicator worksheets £12.95 + VAT

Macmillan Education Ltd, Little Essex Street, London WC2R 3LF.

A watery day arrived on my desk this week - *What's That?*, the first of a series of five fact packs about the Broads, aimed at middle schools and produced by the Broads Authority, and Macmillan Education's *Let's Learn About Fish*, 21 full-colour posters with supporting teachers' guide and spiral duplicator worksheets. Also part of a series, this one is about animals worldwide.

I liked almost everything about the fact pack and if I were one of the hundreds of teachers currently organizing a trip to the Broads, I would use it before, during and after the event. *What's That?* has 29 deceptively illustrated, precisely informative pages illustrating the principal habitats - marsh, fen, open grazing and carr woodland - ("the nearest to a tropical



Broad facts

swamp you are likely to get in Britain") - and the plants, birds, mammals, butterflies, amphibians and minibeasts to be found there. Moreover they can be photocopied, coloured, cut out and enjoyed.

The text is lively, succinct and sits well on the page. The drawings are a delight and the book includes a list of useful addresses (RSPB, Norfolk Naturalists Trust, Nature Watch) and a selection of reference books. These

Physics and the real world

Physics Plus, Pack 1
Pack of 10 titles £1.99
Sponsored by Standing Conference
Schools Science and Technology
Hobsons Scientific, Bateman Square
Cambridge CB2 1LZ.

This is an excellent set of leaflets aimed at enriching physics courses up to 16. They discuss applications from the real world, using familiar situations as modern examples, and are written in clear, direct style which should appeal to young science pupils.

Each title comes as a folded single sheet, giving information on four sides of A4 paper. This format has been chosen to allow easy updating as necessary. The subject matter is diverse and incorporates important physical principles in modern or everyday situations.

Thus, sailing is discussed in terms of the component forces acting on the boat and a number of numerical examples are included. Distance-time graphs are illustrated by reference to the problems of time-scheduling express and high-speed trains from Euston to Preston. Electrostatics (a rather difficult subject in my day) is brought to life by describing the use of an electrostatic precipitator in a power station and the hazards of cleaning the fuel tanks of a large ship.

Each leaflet is interspersed with discussion questions and contains diagrams and monochrome photographs. The format should ensure easy integration into any syllabus or teaching scheme. Pupils using these materials should develop a clear idea of the relationship between physics and the real world. Dr McKim and his team are to be congratulated on their production.

Alan Vincent

notes

GREAT WESTERN RAIL
Schools in the British Rail Western region interested in the "Great Western 150 Resource Pack" can obtain free copies from the Regional Public Affairs Manager, British Rail Western, 125 House, 1 Gloucester Street, Swindon, SN1. To schools outside the region, there is a charge of £5.95 + p&p.

VIDEO CONFERENCE
"The Use of Video Production Systems in ILEA's Schools and Colleges" is the theme of a conference to be held on June 29, 10.00-4.00. Anyone interested in attending, should contact Pamela Lawrence at Beaufort House School, Little Road, London SW6 (tel: 385 3700).

will be required in order to colour the beautiful line drawings. There's no colour.

As for the worksheets (spot the difference, make a food chain mobile or a frog flicker book), they are a small, cheerful, educational bonus. An excellent resource this is, it is available, along with packs on planning a trip, conservation, the Broads landscape and way of life.

After that Macmillan's *Let's Learn About Fish*, written by Jan Hatley of Paignton Zoo, was disappointing. The 21 posters feature fish from Britain's rivers and inshore waters, from the North Sea, the Baffin Reef and all waters in between. It seemed exciting but it wasn't.

A few of the pictures were quite pleasing but generally the colour was murky. The illustrations neither informative nor sufficiently intriguing to make me read the words and the photographic posters truly dismal.

Far away the best part of the pack was Jan Hatley's teachers' notes. These were brief, informative and combining surprising facts with a number of useful suggestions for topic work. What use the cart without the horse?

Susan Thomas

'Millions of us adults must have had childhood experience of adult sexual interference, and in our silence we are preventing help from reaching children'

Joan Freeman on programmes on child abuse

Say no

Say No to Strangers

Prepared for the Home Office by the Central Office of Information

VHS, Betamax, U-matic £35 incl VAT
Also available to hire free of charge from CFL Vision, Chalfont Grove, Gerrards Cross, Bucks SL9 6TN.

Now I Can Tell You My Secret
VHS, Betamax, U-matic £110

Child Molestation: Breaking the Silence
VHS, Betamax, U-matic £115

Walt Disney Educational, 31-32 Soho Square, London W1V 6AP.

The sexual abuse of children is of epidemic proportions among primary school children. About a third of all girls and one in eight boys experience it in some form. This does not imply that the crime is growing, but rather that it is being recognized for what it is, an adult exploitation of children's mental and physical vulnerability. Of child molesters arrested in America (probably the caught minority), almost all are male, half of them are under 50 years old, and, most poignantly, are known and often loved by the victim. The children are never to blame - neither girls nor boys - and when they speak of their experiences they should be believed.

Say No to Strangers is a British production, made in conjunction with the Home Office. The opening grabs the young viewer with Space Invader graphics, then dives straight in to scenes from films of goodies and

baddies, showing how easy it is to tell the difference in fantasy, but what about real life?

Several very convincing sequences show normal children in confusing situations where it is so easy to say "yes" to an entirely plausible story, told by an apparently nice, ordinary man. Each sequence is played with two endings showing what would happen with a right and a wrong response by the child. Like a Greek chorus, the Space Invaders echo the answers to great effect. There is no theme music, no crude scaremongering; the scenes are quite enough. It should be shown in every primary school.

The Walt Disney Company has taken a less shocking approach to the children it addresses. Its aim is to reassure them that they can and do have a right to do something about it when they are in danger. *Now I Can Tell You My Secret* is aimed at a junior school boy who is molested by a neighbour. He is helped to tell his mother about it with the advice of his best friend and his teacher. His school class displays a well-researched multi-racial balance, where the beautifully-polished children sit in rows, listening and responding intelligently to their teacher.

The suggested key to the children's self-protection is a concern with touch. The film asks them to be aware of how an adult's touch seems to them, good, bad or confusing. Should the worst happen, the aim of the advice is to help the victim rid himself of the burden of the secret. It can be summarized in three moves - say no, get away to a



safe place, and tell someone who will help you.

Both the British and American productions are excellent in alerting children to the ways of the abusers, such as their seductive language: "It'll be OK with your folks". "We share a special secret". "Your parents wouldn't like you if they knew what we did". But overall, the British production is more likely to be effective for British children. The American one is slicker and consequently somewhat less immediate. Is the boy shown in his California, ranch-style home really the same as you in your dingy high-rise block?

Child Molestation: Breaking the Silence is the second half of the Walt Disney package and is directed at teachers and parents. It is conducted by a pleasant, grey-haired man who tells you the truth about the iceberg of molestation while wandering through a sunny, tree-lined suburb. A "leader's" guide is also available.

Our mentor suggests three solutions to the problem. First, we have to increase awareness that the problem exists; second, make it easier for the kids to know how to feel able to cope; and third, learn how to make sure that all sexual abusers are reported. The difference between a child who can cope and one who cannot may well be the result of the attitudes of the other adults who look after her: if you respect a child it is more than likely she will respect herself. He also gives quite

Step by step

As cinema and television celebrate a season of dance, Joanna Lyall looks at videos for young dancers

Young Dancers
VHS, Betamax £20 (inc p&p)
From Vivien Bridson, London Contemporary Dance School, The Place, 16 Flaxman Terrace, London WC1H.
Hunter of Angels
VHS £57.50 (inc p&p and VAT)
Information pack £11.50; audiocassette £5.75; slide pack £8.05; entire resource pack £75.

From The National Resource Centre for Dance, University of Surrey, Guildford, Surrey GU2 5XH.

All the drawbacks of ballet on television - loss of impact, diminished sense of space and shape, diluted drama and a general distancing effect - are likely to beset dance videos. But the new format could have a valuable role in explaining, sometimes step by step, how individual works are built up. Or so these two suggest.

Without any direct, to-camera explanations, *Young Dancers*, produced by Jane Dudley, director of contemporary dance at London Contemporary Dance School, presents an interesting demonstration of how technique and understanding are built up. It could prove a useful point of departure for discussions with several age groups as the performers of the three short pieces range from eight to "the young professional".

Perhaps predictably, it is the youngest who provide the most stimulating developments. In "Scenes from Childhood", the section danced by the 8-11s, we see how quickly children respond to the dramatic possibilities of dance, losing their self-consciousness and preoccupation with technique as soon as they see movement as a means of expression, a way of telling a story about a bad dream or a good game. The results are appealing.

Telling stories in dance is a delicate business but best tackled head on, some believe. "I try to pack the dance with as much information as possible," says Robert Cohan, formerly artistic director of the London Contemporary Dance Theatre, explaining *Hunter of Angels*, the ballet he choreographed in 1959.

The video, the result of collaboration between LCDT and the National Resource Centre for Dance at Surrey University, consists of two performances of the ballet linked by a 15-minute exposition of the work's inspiration, "basically a religious dance about man's attempt to overcome his lower self", staging and symbolism. Much attention is given to the ladder which is a focal point in this story of the struggle between Jacob and Esau (and a source of some pain and difficulty for the dancers, according to the interview on the cassette). And Cohan is at pains

to draw attention to the significance of the costumes and the symmetry of the piece.

Whether the work merits, or benefits from, such explanations is of course a matter of opinion, as the producers acknowledge. The information pack includes some interesting contradictory reviews.

medallist Daley Thompson as link man. He observes and subsequently analyses the interviews with the interviewer. The three key messages, be prepared, be presentable, be precise, are further developed in the supporting leaders' guide intended for anyone responsible for showing the programme to a group. "You Can't Just Walk In" lasts for 22 minutes and is available on VHS and Betamax at £59.44 (incl VAT and p&p), from SB Modules, 159 Great Portland Street, London W1N 5PD.

SCHOOL LEAVERS
"You Can't Just Walk In" is the title of a new training video which aims to help school leavers deal successfully with job interviews. The programme portrays two young people having their first interviews for jobs, and features Olympic gold

medallist Daley Thompson as link man. He observes and subsequently analyses the interviews with the interviewer. The three key messages, be prepared, be presentable, be precise, are further developed in the supporting leaders' guide intended for anyone responsible for showing the programme to a group. "You Can't Just Walk In" lasts for 22 minutes and is available on VHS and Betamax at £59.44 (incl VAT and p&p), from SB Modules, 159 Great Portland Street, London W1N 5PD.

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CHILD BATTERING
"Tom, A Study in Child Abuse" is a 41-minute video on child battering. Designed to show to teachers, the programme contains interviews with the head of a school, Lambeth's social services, a consultant paediatrician and a mother who has abused her child. It is available on VHS (£15 to ILEA schools, £25 to others, or £5 to hire for a year) from David Bailey, Centre for Learning Resources 275 Kennington Lane, London SE11.

BETTER SCHOOLS

This White Paper published on March 26 which includes proposals for legislation - on school governing bodies and in-service training and some final decisions in other areas such as AS levels - was summarized in The Times Educational Supplement on March 29.

Reprints of this summary are available price 25p each (cheques/postal orders made payable to The Times Supplements) from:

Lesley Griffiths, The Times Supplements, Priory House, St John's Lane, London EC1M 4BX.

The price includes 2nd class postage but not Red Star or hand delivery.



A whitewash job?

Ashok Bery looks at the pros and cons of the advertising world in Channel 4's series 'The Art of Persuasion'

The Art of Persuasion
Channel 4
Mondays 6.30 pm.

On its showing so far, Channel 4's new series, *The Art of Persuasion*, looks set to contain the longest commercials running on TV. The beneficiaries in the first programme, "A Very Difficult Client", were the makers of Cinzano; in the next programme, Shell and United Technologies had to be content with a meagre 15 minutes or so each. No doubt the advertising agencies and their clients were aware of this fringe benefit when they agreed to be filmed. "A Very Difficult Client" followed the making of a new Cinzano commercial to replace the celebrated series featuring Leonard Rossiter and Joan Collins, a series which entertained many but failed, apparently, to impress the product on the minds of viewers. The agency involved, The Creative Business, descended, along with extras, a dog, and the very difficult client of the title, on a small Italian town for several days of filming.

culminating in a jamboree when 1,000 people jammed the town square. The second programme, "Bringing Art to the People", opened appealingly with the unlikely figure of John Burt Foster, appearing in a Shell advertisement. As presenter Christopher Frayling pointed out, Foster was not everyone's idea of a man to sell the petrol. But what we are seeing was corporate advertising, where the idea is not so much to sell the product as to make the viewer think warm thoughts about oil companies and other multinationals. Shell has always relied on Englishness as part of its image; and who could have been more English than the late Sir John?

Corporate advertising sometimes disguises itself. Later in this programme came an expensive campaign by the American company, United Technologies, turning out glossy advertisements which say little or nothing about product or organization. One of their techniques was to use "poems" full of homespun wisdom ("Do It Now") or vacuous aphorisms ("Kollogg minus A farmer/Equals/No corn flakes"). The

method works, too: a follow-up survey found that many *Wall Street Journal* readers thought United Technologies had the best management and the best R&D, and was socially responsible. But the cynicism underlying this kind of toying up of the flabby corporate image became apparent when an executive suggested that Shell's environmentally conscious advertising would help when the company next wanted to dig a hole somewhere.

Although the series is entertaining and useful in its revelation of advertising techniques, it shows no signs so far of getting to grips with any of the central problems. What is missing up to now is any attempt to explore ends as well as means, or to examine relations of power and money, or to see advertising as the product of a particular type of economy and society. These are familiar objections, but as long as advertisers have designs on our minds and our pockets, they need to be re-stated continually. A series on advertising that fails to confront these questions is crippled from the start. One hopes that later programmes will take up these issues.

another bridge, another time of day - earth has not very much to show more far than the Thames at dusk and the magical paths of light across Chelsea Bridge.

Less entrancing was Bill Oddie's circumnavigation of Fair Isle, a landscape which seemed to consist principally of large bird traps, in to which, unkindly perhaps, I hoped he might fall. Dismissing wheat ears and oyster catchers, the characteristic birds of the island ducks and shags. Oddie has eyes only for the unnatural, the scarce, the vagrant birds. He spent his walk beating small patches of vegetation and knocking on stone walls to discover "small, tired migrants" (his words not mine) who were badly in need of jumping about near great skuas' eggs either. Still, it's better than shooting, and it provided an insight in to some Bill Oddie is a recently taught, for whom many rare birds, they couldn't tell the song of a wren or a chaffinch.

But this is compulsive viewing whether or not you approve of the protagonists. I look forward to the intelligent passion of Chris Baines for the black country, Charlotte Thomas for the landscape of the Yorkshire dales, Exmoor with David Young, and Francis Wilson, the weatherman whose business is also his hobby.

briefings

radio & tv

For schools

STOP, LOOK, LISTEN

(Monday, 9.59 ITV)
"Tales Told in Verse" for eight to 11-year-olds, features William Cowper's "John Gilpin's Ride" with Ronald Searle's drawings and a story in rhyme by Cressida Garstin about a figure carved in wood.

REALITÉS FRANÇAISES

(Monday, 11.38 ITV)
Max Bellancourt presents a film made in collaboration with a French trade union about a nuclear processing plant. Interviews with workers and local people give A level students an idea of the inadequate safeguards employed.

WORDS AND PICTURES

(Mon, 14.00, Wed 11.00 BBC2)
The story of a little boy and his toy dog, Dogger, introduces five to seven-year-olds to words beginning with "do" and encourages them to talk about special toys.

INTRODUCING SCIENCE

(Monday, 14.20 VHF4)
A two-part unit on "Atoms and Molecules" for nine to 12-year-olds begins by explaining the make-up of an atom, and goes on to show how some atoms are unstable and can fall apart.

MINORITY LANGUAGES MAGAZINE

NBS (Monday-Friday, 00.30 VHF4)
Plays, conversations, jokes, songs and stories in Urdu and

Hindi, Bengali, Gujarati, Punjabi and Cantonese for the over-13s.

TWENTIETH CENTURY HISTORY

(Tuesday, 9.26 BBC2)
"Israel and the Arab States" offers students the opportunity to see and film illustrating major developments in the Arab/Israeli conflict since 1917.

HEALTH EDUCATION: MY BODY

(Thursday, 14.40; VHF4)
A new programme in this series for 12-year-olds investigates the body's defences. Explains the role of the white cells and the reasons why at the height of historic epidemics the bulk of the population survived.

Continuing education

JEAN ANOUILH AT 75

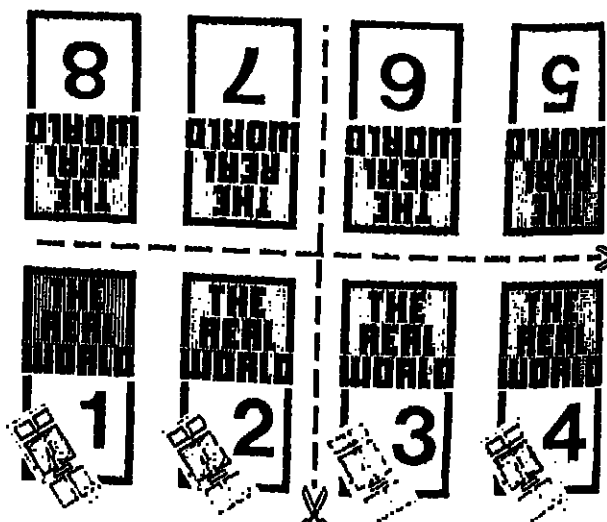
(Friday 20.15 R3)
To introduce a season of Anouilh's plays, J.W. Lambert examines the ups and downs of the French writer's career and the themes and development of his work "Antigone" follows on Sunday 19.15, Jane Asher and Peter Vaughan.

WORKING FOR A BETTER LIFE

(Sunday, 11.30 ITV)
This series, examining different ways of organizing our working lives, asks if voluntary work is an answer to long-term unemployment.

WORKFORCE

(Sunday, 22.15 R4)
Brian Redhead looks at recent developments in the world of work, government proposals and the foundation of the Employment Institute. He also discusses with employers the creation of a flexible and more adaptable workforce.



Smelly telly

Hugh David uncovers those green fragrances that give a lift to 'The Real World'

The Real World
ITV, Mondays 7.00pm.

It had to happen. After 3-D television and videocassettes with Dolby stereo sound... Aromatisation; smelly telly. TV's *The Real World* brought it all to our sitting-rooms on Monday night with the aid of a little card slipped into every copy of *TV Times*. Pre-transmission, we were advised to cut this along the five dotted lines, the better to appreciate eight separate aromas with which various sections were impregnated. Oh, the technology that must have gone in to producing those cards which, at the slightest touch of a strawberry, released the fragrance of mown grass, even burnt rice pudding.

Such, however, was not the concern of *The Real World*. In an abrupt change of gear from the previous week's programme - an unashamedly level piece about cloning the DNA of long-dead pharaohs and extinct animals - "Led by the Nose" was a Roddy's introduction set the tone. This programme was going to be the only TV programme to be deliberately "led by the nose".

It wasn't that bad, but the periodic scratching and sniffing did distract attention from what various experts were saying. A perfume manufacturer representing an industry worth some £200m a year in this country alone talked about the importance of "green notes" in any perfume. They "lifted", he said, though I failed to find anything green at all in the specially concocted perfume "Le monde réel" which was one of the aromas on the card. It smelt like any cheap soap; maybe - like the show's science content - what the expert called "woolability" just couldn't survive the impregnation process.

Schools, however, will get a second chance with the science. Sponsored by British Gas has allowed TV to produce a free set of more than 100 comprehensive back-up notes for all the programmes in the series. Well illustrated and copyright-free, they are also designed to stand on their own as permanent classroom resource materials. Secondary schools should all be now have received order forms for the next couple of weeks. Any who haven't should contact *The Real World*.

Boys will be boys

Elizabeth West looks at PTAs from the sidelines

Being neither a parent nor a teacher my interest in the Parent Teacher Association is somewhat limited. Limited, in fact, to the evening of the annual meeting when the officers for the succeeding year are appointed.

My first question to teaching colleagues on the morning following the meeting is "Who was elected secretary, and can she/he type?" From the answers I receive, I can judge to what extent I am going to be bothered by sheepish requests to "do a bit of typing" in the year ahead. So limited is my interest in the PTA that I know very little about it. I sometimes wonder who first thought up the idea of such an association and I wouldn't mind betting it was a parent and not a teacher.

I can quite see that a responsible, caring parent who has spent all day at home or at work in an office, shop, factory or laboratory would thoroughly enjoy an evening jaunt down to the primary school, with its stimulating wall displays and smiling teachers ready to answer all those little queries about school. But the teachers, who have spent all day at school being smiling and stimulating must surely have to make a tremendous effort to tear themselves away from the armchair and the TV to return to their place of employment. The fact that the Association has gone from strength to strength seems to indicate what a dedicated and hard-working bunch most of our teachers are.

"What on earth do you talk about?" is another question I sometimes ask, following a meeting. The replies I get are usually terse and monosyllabic. However, I gather that matters of concern like the shortage of pegs in the junior cloakroom and the date of the next jumble sale are thrashed out. I also understand that, at the last meeting, Mrs Broughall delayed the proceedings considerably by asking why the girls' names were listed separately from the boys' names in the class



attendance registers. She didn't receive a satisfactory answer. One teacher mumbled something about it always having been done that way; another said she thought it was "more convenient for the office" and a third teacher, who said nothing and was probably thinking of that armchair and the TV, simply held his head in his hands and stared at the floor. The fact that some registers listed girls before boys, and others the reverse way, didn't satisfy Mrs Broughall and I've no doubt she will soon be coming to the office to question me. I can't give her a satisfactory answer either; and I know she will be even more concerned if she discovers that the list of children who will be transferring to secondary education at

the end of the year not only have to be separated into boys and girls for I.e.s. - but the boys appear on blue paper and the girls on pink.

However, if we appear to be sexist in our documentation of the children, we try to make sure that the day-to-day life of the school is above reproach in this matter. No reading schemes which show Tom helping Daddy in the garage and Sally helping Mummy in the kitchen are in use here, and our little boys enjoy cookery classes alongside the girls. But while the staff do their best to combat sexism in school the children, I am sorry to say, just will not cooperate.

In times of classroom "general activity" the little girls all dive into the Wendy House to busy

themselves with the pots, pans and dishes, while the little boys make for the tool chest and bang away with hammers and blocks of wood. This unfortunate attitude among our children exhibits itself at a very early age. Last Christmas I watched a group of four-year-olds assembling excitedly for their class party. The little boys were stepping on each other's toes, pushing, prodding, ramming party hats down over each other's eyes and doing all sorts of other manly things, while the little girls - primping their hair and smoothing their dresses, jostled for a place in front of the mirror. I understand, moreover, from a colleague at secondary school, that the problem worsens as the children get older. Very few girls will opt for Engineering (which they consider to be a nasty, dirty, noisy subject) and no boy has yet been known to choose needlework.

Reflecting upon these matters the other day it occurred to me that there is an incidence of blatant sexism in this school which has so far gone overlooked - even by Mrs B.

Along the corridor are two little functional rooms; one labelled "boys" and the other one "girls". What a disgrace! The notices should be removed at once. If the rooms became unisex it might, in fact, lead to better behaviour. (Little boys, under the disapproving eyes of little girls, may be less likely to do anti-social things with toilet rolls or compete with each other for the highest splash mark on the wall.) But on the other hand, if a little boy and a little girl decide to share a cubicle, could the possible subsequent actions - taking place in privacy - be described as "sexist"? It's all very confusing. Perhaps I should suggest to Mrs B that she raises the matter at the next PTA meeting.

Elizabeth West is a secretary in a West Country primary school.

Give teaching back to teachers

With schools under a constant barrage of rhetoric and advice,

Beverley Shaw sides with a curriculum theorist who wants to shift the initiative back into the classroom.

Barrow is a philosopher and sceptical of much that passes for science in the study of human behaviour. His sceptical commentary is based on a thorough study of particular pieces of educational research.

Some of his criticisms are straightforward enough: that too much is claimed of research based upon case studies, or samples so small as to cast considerable doubt upon the generalizations drawn from them. Sometimes it is the media that is to be blamed for exaggerating the claims of such research and ignoring the qualifications and hesitations of researchers.

Barrow's criticisms bite deeper than that, however. He expresses some doubts concerning some educational research that are more fundamentally critical than those relating to the techniques of the research workers. This line of criticism is the more worthy of consideration at a time when British teachers are faced with the threat or prospect that their own performance as teachers will be measured.

For Barrow considers educational research that attempts to describe, analyse and measure how teachers teach. A recent example of such research is the Observational Research and Classroom Evaluation Project (Oracle), conducted from the University of Leicester. Barrow looks at this kind of research, and Oracle in particular, in some detail.

Much of this kind of research is carried out by observers who sit at the back of classrooms and note down on various schedules the behaviour of teachers (and sometimes pupils).

Barrow makes many sharp points about this approach. First, that it is not enough to establish "categories" that permit systematic observation - such as "teacher" or "pupil" - but also of specific

praising work". Barrow remarks that the question is whether the system is good and appropriate to the task; "whether it makes sense to see the complexity of the classroom in terms of some 70 allegedly discrete units of behaviour, formulated beforehand".

Second, Barrow says, there is no obvious reason why teachers cannot be both praising work and "offering ideas and stating facts", yet another category. And though there are some 70 categories, there are aspects of the teacher's work still not included; for example, the ability to evoke enthusiasm. Furthermore, it is often not self-evident how to interpret teacher behaviour.

There are dangers to the curriculum and teacher freedoms, Barrow claims, if too much credence is put upon behavioural approaches to the study of classroom life. There is the belief that if we cannot measure human behaviour on a scale of one to ten such behaviour cannot be properly said to exist: that what is immeasurable cannot be counted in another sense. There is the view that human behaviour is only a matter of what can be observed by an allegedly impartial observer.

Barrow argues that these attitudes may lead us to believe that only those educational outcomes that can be measured and described will be seen as the appropriate objective for the curriculum: with a resultant impoverishment of schooling. Barrow argues that many good things that teachers attempt to do with and for their pupils are not capable of measurement or descriptive evaluation without harm. Examples are: appreciation of the arts, much of moral education, the educating of feelings and emotions. The freedom of teachers would be improperly limited if they had to see their job in terms of fulfilling behavioural objectives decided by others.

Barrow does not, however, limit himself to

claims to science of much educational research were better, applied science is not enough. Applied science is what we need to achieve some end; it cannot, of itself, tell us what end is desirable. Bridge building is an applied science but it cannot tell us where to site our bridges - as in the example of that gorgeous folly, the Humber Bridge, that magnificently spans the estuary below to no very evident rhyme or reason.

Curriculum theorists, Barrow argues, have not concerned themselves enough with the point of schooling. Perhaps this is because curriculum theorists consider that questions on the purpose of school life are to be answered by reference to opinions, wants or interests that can be measured, rather than by attention to some more rational analysis. Inevitably, then, if curriculum changes cannot be rationally defended (if it is all a matter of values or opinion) then their implementation is matter of Machiavellian politicking - another aspect of curriculum theorizing that Barrow deplores.

Barrow's prescriptions for the school curriculum are unexceptional: physical activities, science, mathematics, religion, literature and history. Indeed, he repeats the familiar point (banal but true) that change is not to be valued for itself. Many teachers may find it refreshing that here at least is a curriculum theorist who is not advocating that everything requires changing.

Teachers, he emphasizes, should be allowed a great deal of scope for initiative and judgement. Why? Because of the absence of any soundly based science of the curriculum that could substitute in any fundamental way for the knowledge teachers have to what they teach or of whom they teach. Curriculum theorists have not come up with the best way to teach anything to any particular group of pupils. Therefore, let us give teaching back to the teacher.

But hasn't Barrow effectively cut off the branch on which he perches? If teaching returns to teachers, do we have any further use for professors of curriculum theory? Not surprisingly, Barrow draws back from dismissing the possibility in principle for well-founded empirical research; but it must be better thought out than past and current examples. And there remains the necessity for the deliberative consideration of curriculum justifications and ends, to which the theorist can make a contribution.

Beverley Shaw is a lecturer in the University of Durham School of Education.

Robin Barrow's *Giving Teaching back to Teachers. A Critical Introduction to Curriculum Theory*, published by Wheatsheaf Books, is

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SECONDARY COMPUTER STUDIES

WALTHAM FOREST
An Equal Opportunity Employer.
MCNTEE SENIOR HIGH SCHOOL
Bilbri Road, London E17
Head: Mr. A. Sten
Required for September 1985, a Head of Design and Technology (plus other Computer/Maths Teacher) to teach in this comprehensive school in the development of a computer facility, courses to CSE and 'O' level. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Craft, Design & Technology

Heads of Department

HILLINGDON LONDON BOROUGH OF

NORTHWOOD SCHOOL
Potter Street, Northwood, Middlesex HA6 1QQ
(Number on roll: 998 125 in sixth form)

Headteacher: J. J. Chapman, M.A.

Required for September 1985, a suitably qualified teacher for appointment as Head of Craft, Design and Technology, to continue the successful work of the department which offers a wide range of subjects at examination level including Textiles, Graphics, Ceramics, Woodwork, Metalwork, and Electronics. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Please apply in the first instance by letter to the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985.

Outer London Allowance payable. (13428) 132118

NORTHAMPTONSHIRE

SPION SCHOOL
Brackley Road, Northampton NN15 7JY

Required for September 1985 to this January 1986, a suitably qualified teacher to continue the successful work of the department which offers a wide range of subjects at examination level including Textiles, Graphics, Ceramics, Woodwork, Metalwork, and Electronics. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

The faculty currently offers art and design up to A level, and child-care, control technology (including micro-processor control), mechanical technology, and textiles up to 16 plus levels.

The school is situated in a pleasant rural area of South Northamptonshire within reach of Northampton (via M1), Northampton, Kettering, and Oxford and Stratford.

Application forms and further details from the Headmaster by letter to the Headmaster, stating the names and addresses of two referees. Closing date: 1 July 1985. (12454) 132118

London Borough of RICHMOND UPON THAMES (An Equal Opportunity Employer)

Staff/Advisory Teacher for Design Technology

Salary (Burnham) Senior Teacher (currently £10,593 to £14,073 inclusive of Outer London Allowance).

Applicants for this new appointment should have successful and appropriate teaching experience together with first hand knowledge of current curriculum development in Design Technology.

One of the first concerns of the new or woman appointed will be to further the development of Modular Technology courses by providing school-based as well as Authority wide in-service training.

The Authority is running a TVEI project involving its eight 11-16 comprehensive schools and its tertiary college and the successful applicant will have a commitment to curriculum and staff development within the project.

A review of the Authority's Design Technology provision has been undertaken recently by British School Technology. The establishment of this post was one of the principal recommendations of the report.

Forms and further details are available (a.s.p. form) from the Director of Education, Regal House, London Road, Twickenham, Middlesex, TW1 3QS, returnable by Friday, 5th July 1985.

This is a re-advertisement. Previous applicants will be reconsidered. (Applications from employees of the GLC or MCCS with relevant experience will be welcomed.) (12750)

HUMBERSIDE COUNTY COUNCIL

HUMBERSIDE EDUCATION
EAST RIDING DIVISION
WOLFRESTON SCHOOL
South Elm Way, Kirk Elms, Hull HU10 7LD
(Co-educational comprehensive, 11-18 years, A.C.R. 150, 300 in Sixth Form)
HEAD OF CRAFT, DESIGN AND TECHNOLOGY SCALE 3
Required for January 1986, a Head of Craft, Design and Technology. This is a full-time post for a candidate who applied previously are interested in re-applying for this modified post, please inform the Head.

Application forms and further details are available from the Head of the school (a.s.p. form) to be completed by 30th June 1985. (13413) 132118

Scale 2 Posts and above

BEDFORDSHIRE SOUTHERN BOYS' HIGH

Stoneygate Road, Luton, Bedfordshire LU1 3JH
Required for 1st September 1985 a teacher of Craft, Design and Technology to work in a large and developing faculty of creative studies.

A Scale 2 post is available for a suitably qualified candidate. There are well established Guided Foundation Courses and next year the school will introduce CPVE in co-operation with neighbouring High Schools and Southall College of Technology.

An internal in developing modular courses in technology throughout the school would be an advantage. The post offers excellent opportunities for professional development and commitment to the school. London Weighting £1058. Headteacher: Mr. J. Chapman, M.A. (13437) 132120

BERKSHIRE KENNEL LANE SCHOOL

St. John's Road, Caversham, Reading RG4 7JH
Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

BROMLEY LONDON BOROUGH OF

CHARLES DARWIN SCHOOL
Jail Lane, Brixton Hill, Kent SE19 2JH

Required for September 1985, a suitably qualified teacher to continue the successful work of the department which offers a wide range of subjects at examination level including Textiles, Graphics, Ceramics, Woodwork, Metalwork, and Electronics. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

BROMLEY LONDON BOROUGH OF

RAVENBOURNE SCHOOL
Nightingale Lane, Bromley Kent BR1 3SQ

Teacher of Physical Sciences and/or Technology is required for the duration of the current Science Scale 2 (17985) 132120

BUCKINGHAMSHIRE COUNTY COUNCIL

WYCOMBE AREA
Equal Opportunity Employer
SIR WILLIAM RAMSAY SCHOOL
Rose Avenue, Hazlemere, High Wycombe, Bucks.
Head: Mr. T. W. Cooke, J.P.
No. on roll: 570 (including 6th Form)
Required for September 1985, a Scale 2 teacher for Craft, Design and Technology, to continue the successful work of the department which offers a wide range of subjects at examination level including Textiles, Graphics, Ceramics, Woodwork, Metalwork, and Electronics. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

BALING LONDON BOROUGH OF

FEATHERSTONE HIGH SCHOOL
11 Montague Way, Southall, Middlesex UB8 3HF

Required for September 1985 a teacher of Craft, Design and Technology to work in a large and developing faculty of creative studies.

A Scale 2 post is available for a suitably qualified candidate. There are well established Guided Foundation Courses and next year the school will introduce CPVE in co-operation with neighbouring High Schools and Southall College of Technology.

An internal in developing modular courses in technology throughout the school would be an advantage. The post offers excellent opportunities for professional development and commitment to the school. London Weighting £1058. Headteacher: Mr. J. Chapman, M.A. (13437) 132120

HAMPSHIRE COVE SCHOOL

St. John's Road, Caversham, Reading RG4 7JH
Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

HARROW EDUCATION COMMITTEE

185/22 and D/25/83, P22 85. (12055)

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

HILLINGDON LONDON BOROUGH OF

NORTHWOOD SCHOOL
Potter Street, Northwood, Middlesex HA6 1QQ

Required for September 1985, a suitably qualified teacher to continue the successful work of the department which offers a wide range of subjects at examination level including Textiles, Graphics, Ceramics, Woodwork, Metalwork, and Electronics. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

KENT COUNTY COUNCIL

THE HOWARD GRAMMAR SCHOOL
Canterbury, Kent

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

LEICESTERSHIRE COUNTY COUNCIL

MARTIN HIGH SCHOOL
Link Road, Aylestone, Leicester LE1 7JH

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

NEWHAM LONDON BOROUGH OF

LISTER COMMUNITY SCHOOL
Burton Lane, London N60 8AZ
Tel: 01-445 9905
Co-educational Comprehensive, Roll 718.
Head: Mr. J. Thomas
Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

SHEFFIELD CITY OF SHEFFIELD

EDUCATION DEPARTMENT
SHEFFIELD COLLEGE
SHEFFIELD S1 1BT

Required for September, Scale 3. An exciting opportunity exists for a suitably qualified teacher to work in a large and developing faculty of creative studies.

A Scale 3 post is available for a suitably qualified candidate. There are well established Guided Foundation Courses and next year the school will introduce CPVE in co-operation with neighbouring High Schools and Southall College of Technology.

An internal in developing modular courses in technology throughout the school would be an advantage. The post offers excellent opportunities for professional development and commitment to the school. London Weighting £1058. Headteacher: Mr. J. Chapman, M.A. (13437) 132120

WALTHAM FOREST AN EQUAL OPPORTUNITY EMPLOYER

LEYTON MANOR HIGH SCHOOL
Capeworth Street, London E10 Head: Mrs. J. Brown

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

TEMPORARY TEACHER SCALE 2 (plus ODT)

London and South Essex Education Authorities. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

Scale 1 Posts

DEVON

Please see displayed advertisement on page 13. (12941) 132120

CAMBRIDGESHIRE LEASO COMMUNITY EMPLOYER

CHILDE
185/22 and D/25/83, P22 85. (12055)

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

CAMBRIDGESHIRE LEASO COMMUNITY EMPLOYER

IMINGTON VILLAGE
185/22 and D/25/83, P22 85. (12055)

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

DERBYSHIRE

See Derbyshire Display 185/22 and D/25/83, P22 85. (12055)

EAST SUSSEX SEAFORD HEAD SCHOOL

Argyle Road, Seaford BN35 4JH
Comprehensive mixed, 11-18. From September, Teacher of C.D.T. (Scale 1) to join a team of 3 teachers and work in a large and developing faculty of creative studies.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

BARNET LONDON BOROUGH OF

RAVENSCROFT SCHOOL
Barnet Lane, London N60 8AZ
Tel: 01-445 9905
Co-educational Comprehensive, Roll 718.
Head: Mr. J. Thomas
Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

BEXLEY LONDON BOROUGH OF

TECHNICAL SCHOOL
Bilbri Road, London E17
Head: Mr. J. Thomas
Required for September, Scale 3. An exciting opportunity exists for a suitably qualified teacher to work in a large and developing faculty of creative studies.

A Scale 3 post is available for a suitably qualified candidate. There are well established Guided Foundation Courses and next year the school will introduce CPVE in co-operation with neighbouring High Schools and Southall College of Technology.

An internal in developing modular courses in technology throughout the school would be an advantage. The post offers excellent opportunities for professional development and commitment to the school. London Weighting £1058. Headteacher: Mr. J. Chapman, M.A. (13437) 132120

DOINGCASTER COMPREHENSIVE SCHOOL

185/22 and D/25/83, P22 85. (12055)

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

HARROW EDUCATION COMMITTEE

185/22 and D/25/83, P22 85. (12055)

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

HILLINGDON LONDON BOROUGH OF

NORTHWOOD SCHOOL
Potter Street, Northwood, Middlesex HA6 1QQ

Required for September 1985, a suitably qualified teacher to continue the successful work of the department which offers a wide range of subjects at examination level including Textiles, Graphics, Ceramics, Woodwork, Metalwork, and Electronics. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

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KENT COUNTY COUNCIL

THE HOWARD GRAMMAR SCHOOL
Canterbury, Kent

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

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LEICESTERSHIRE COUNTY COUNCIL

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Link Road, Aylestone, Leicester LE1 7JH

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Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

ENFIELD LONDON BOROUGH OF

ENFIELD SCHOOL
Bilbri Road, London E17
Head: Mr. J. Thomas
Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

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Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

DOINGCASTER COMPREHENSIVE SCHOOL

185/22 and D/25/83, P22 85. (12055)

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

HARROW EDUCATION COMMITTEE

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Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

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HILLINGDON LONDON BOROUGH OF

NORTHWOOD SCHOOL
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Required for September 1985, a suitably qualified teacher to continue the successful work of the department which offers a wide range of subjects at examination level including Textiles, Graphics, Ceramics, Woodwork, Metalwork, and Electronics. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

KENT COUNTY COUNCIL

THE HOWARD GRAMMAR SCHOOL
Canterbury, Kent

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

LEICESTERSHIRE COUNTY COUNCIL

MARTIN HIGH SCHOOL
Link Road, Aylestone, Leicester LE1 7JH

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ENFIELD LONDON BOROUGH OF

ENFIELD SCHOOL
Bilbri Road, London E17
Head: Mr. J. Thomas
Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

ENFIELD GRAMMAR SCHOOL

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Application forms and further details are available from the Head of the school, stating the names and addresses of two referees. Closing date: 1 July 1985. (13437) 132120

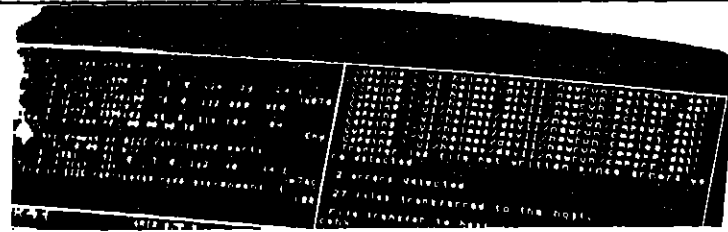
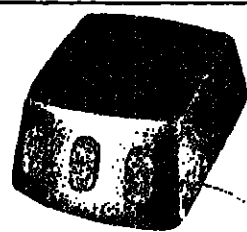
DOINGCASTER COMPREHENSIVE SCHOOL

185/22 and D/25/83, P22 85. (12055)

Required for September 1985, a teacher of Craft, Design and Technology. The successful candidate will be responsible for the design and development of the facility, and will be responsible for the design and development of the facility.

Application forms and further details are available from the Head of the school, stating the names and addresses of

EXTRA



Of mice, and windows

and other developments. By Ray Hammond

A new generation of micro-computers is about to arrive in education and the belated arrival of the 64K BBC+ will do nothing to hinder their impact. The potential which these machines have to offer education will turn the micro from an educational aid which provokes both suspicion and uncertainty into a tool which will be able to achieve educational exercises impossible by any other means.

For the last five years British schools have been using "first generation" micros, small microcomputers based around an eight-bit microprocessor. These machines - the BBC, Spectrum, RML, etc - have produced some impressive results, but both teachers and pupils have been labouring under the problems associated with an age which is the equivalent of the "cats whiskers" age of radio.

Tomorrow's machines will not require fiddly cassettes, or hard-to-remember operating codes, but will have a wide variety of programming languages available from ROM chips and other "instant access" storage devices in a system which makes considerable use of hand-held pointers ("mice") as the computer industry calls them to issue commands.

The ROM chip is a permanent memory store contained on a read-only memory circuit positioned on a main circuit board. The BBC micro was one of the first machines to pioneer the use of ROM chips for program storage.

The new generation of micros will be able to load languages such as LOGO, BASIC and wordprocessing programs at the touch of a button but they will also be able to load many other specialized programs from ROM storage whether based on chips or on new media such as optical disks. The effect of this technique will make it seem as though the machine is capable of running hundreds of programs at once.

Even more important than convenience and reliability in schools will be the ease of use which mouse control will offer. Mice are currently available for computers including the BBC micro, but these eight-bit machines don't have the power to allow micros to be

used to the full. The advantage of a mouse is that the user does not have to remember complex sets of commands in order to tell the computer or program what is required. By moving a screen cursor to a particular symbol on the screen and pressing a button on the mouse, computing functions can be carried out.

For text production pupils will still have to develop typing skills, but the new generation of machines will allow much faster use by pupils with low levels of keyboard skill and their potential offers sufficient power to allow a reasonable degree of voice-recognition to work once the software has been further refined. Acceptable voice recognition systems capable of understanding limited but useful vocabularies should be cheap enough for use in education by 1987.

At the heart of the new generation of machines is the 16-bit microprocessor. Such processors are not new in microcomputing. They have been used in IBM Personal Computers since 1982, but these have been prohibitively expensive for educational use and, as a result, little useful educational software has been developed.

The breakthrough has occurred with 156-bit machines arriving which cost around the same price as a BBC microcomputer. The first computer which could lay claim to belong to this generation was the Sinclair QL, but the botched launch, the poor software and the inefficiency of the microdrive

storage system supplied with the machine have inhibited its progress. It is also fair to say that the Sinclair QL, treated the power of the 16-bit microprocessor used in the QL by placing it on an old-fashioned eight-bit circuit.

The most interesting development in 16-bit computing has been the Apple Macintosh system. At present these micros are still far too expensive to be considered as applicable for anything but business or further education, but the company has pioneered an operating system which is extremely easy to use.

The Macintosh introduced the concept of "windows" on the screen, each of which shows a different activity. In fact, the machine can do several things at once and these small screens within screens allow the user to observe the different programs running. Moving a hand-held mouse along a desk top, the user points to the function required. This may be to select a certain program, to add, delete or to move information, to create graphics or to look at several programs simultaneously.

One of its most useful functions is to swap information between windows. The user may be creating a visual report on an activity, creating a drawing or chart which will later be printed out. By "windowing" the program and calling up an earlier section of text from a wordprocessing program in a second window, the user can use the mouse to highlight areas of text and to

move it between windows where it will appear in place in the graphic report being prepared. Such windows can be used to call up information from a database, to scan a dictionary or thesaurus and for any other use made possible by programming.

Once the industry realized how successful the system was, others set about emulating it. The most important development for education has been the invention of "GEM" an operating system developed by Digital Research, but the company which produced the internationally successful CPM operating system.

GEM is effectively a copy or simulation of the Macintosh method of working but the advantage is that it will run on almost any 16-bit computer. This means that the new generation of inexpensive home computers will be as easy to use as Macintoshes.

There are many new machines to choose from in this new generation and they are all being offered at surprisingly low prices. The recent announcement that Apricot were lowering the price of the 128K FLE to £595 including disk drive and monitor to compete directly with the new BBC+ micro at £499 without either makes the 8-bit 64K BBC micro seem decidedly overpriced and old-fashioned. To rub salt in Acorn's many wounds Apricot also announced a £30 software package which, it is claimed, will convert almost all BBC programs to run on the FLE. If this proves viable it means that Apricot are offering schools a much

more powerful machine at a lower price while stealing the vital advantage of the large base of BBC software which has been developed.

The most interesting new machines, however, are coming from Atari. From this month the 520ST arrives which is a personal computer with the same power as an up-market IBM microcomputer but which will retail for £999. For this money users will get 512K RAM as standard plus a 3.5" 300K disk drive. The machine runs the GEM operating system and programs are already being converted from the Macintosh to run on the Atari.

Commodore's C128 will be available this summer and this machine, while remaining compatible with the well-known 8-bit Commodore 64, will offer 16-bit power and the potential to run several programs at once.

Software houses around the world are now writing educational programs for the Apricot, Atari, Commodore and the other second generation micros now arriving.

The eight-bit limitation of 64K RAM as a maximum has hindered the educational use of microcomputers. With 16-bit machines children will, for the first time, begin to get a glimpse of what real computing power is about. While running a program to explore the ecology of an inland lake, they will, for example, be able to window their work and study a wider database on the subject of air-pollution, climatic conditions or any other factors which affect an ecological balance.

Atari plan to put all of the information contained in the Encyclopedia Britannica on a ROM storage system developed from the compact disk used for digital sound recordings. Other plans include ROM based dictionaries, thesauruses and general reference books. This development points the way to the day when the vast majority of information in schools is held in a central school computer database and is accessed by a micro in each classroom, if not on each desk top.

On page 57 Mike Duran looks at the implications of developments in hardware and operating systems.

The BBC+ is reviewed on page 56.

Training needs

continued

Education department of the OU to develop a course. Micros in Schools, a five module course, with an introductory module, two modules on educational CAI software and two on microelectronics in schools was the result.

The amount of personal time devoted to self-improvement, by teachers is rarely recognized or credited, especially by teacher employers. This unstructured exercise means teachers working in their own time at home, reading specialist newspapers, journals and books - many of which may be good on the technology side but do not adequately address the educational issues.

MEP is meeting this need through a set of readers, each of which contains 12-15 practical accounts by experienced teachers who explain how they have used the technology to assist their own subject teaching and how it can assist learning.

"Reports from the Classroom" is a newly launched series. Each single report usually describes and analyses use of a single application with a single class. Unlike the readers which are written by the teachers themselves they are prepared by authors who have visited the school and combine their own account with that of the teacher and the pupils.

School-based inset has begun to replace the need for the short introductory course as schools begin to take the task of establishing and implementing a whole school policy for IT and microelectronics. The staff responsible for the policy of curriculum change, and the heads of school subject departments are usually exploring the place of IT in the curriculum and require assistance with the process of change itself, which includes the organization of in-service education for teachers in each department. The main aim is usually to change the attitudes and perceptions of staff rather than train them in technological skills.

MEP has begun to tailor INSET packages to be used as a basis for whole school or school department teacher education activities which are usually organized and led by staff in

each school who have already received introductory courses elsewhere. In the autumn the newly formed National Computer Education team will launch its first pack, "IT and the Curriculum" for just this purpose.

The integrated package approach is referred to as "nesting" materials, the image being of birds' eggs wrapped around in a protective cocoon of a bird nest, sometimes of several layers. New IT developments need to have many supportive and explanatory materials, going far beyond a user manual, to assist teachers make use of them in the classroom. Many recent innovations involve new pedagogy, not just materials, which is challenging in terms of teaching skills and new learning styles. Often as well as the manual, (the first layer), a set of teacher education resources, (the second nest) and some classroom resources for use with the pupils in the classroom (the third layer) are required to wrap around the software or device at the core.

There are many examples. Edward, the wordprocessing pack is one. "Microelectronics for All" (MFA), the standard course designed to introduce 11-14-year-olds to microelectronics, in addition to the electronic boards, includes substantial workcards and materials for learner activities and in addition to that, as the second nest, MEP produces teacher training technique books, case-studies for use in different schools and also runs courses for teacher trainers to prepare them for training teachers in this field.

The same approach is taken with many packages, such as the award-winning BP/MEP "Magnus Connection", multi-media case study of two advanced applications in the oil industry.

Teacher development through curriculum development is a phrase which reflects the dramatic change in the past four years in the growth of competence of teachers as "critical users" of IT in education. The proportion of teachers who are able to see relevant needs for new applications of IT and realistic means of responding to IT in the curriculum has increased. Many more teachers are able to specify the details of the innovation they require. This has been helped by teacher training, of course, but the most substantial gains of all have come from finance which enables and encourages teachers to join small project development teams

to specify a program, design a device or try a new teaching approach.

In the early days the fact that the eventual products were not necessarily imaginative, unique or even of top quality is not that important. It was more important that the teacher acquired confidence, competence and a commitment to change their own curriculum, because they had a personal hand in the specification of change, rather than have it imposed upon them. However, the quality of such developments has greatly improved over time and some of the Regions are beginning to publish those which are well worth distributing.

Capital Media, based in London, and RESOURCE, in the South Yorkshire and Humberside regions are the first two of several regional publishing operations.

All the material described and many more are available for teachers and trainers to sample and explore through the Regional Information Centres (see page 9 of TE) each week for addresses of RIC's).

Orders: ECF Green Film, Romella, Lordwood, Highbridge, Euseleigh, H20 S05 7HR.

Informations: Ann Irving, Dept Library and Information Studies, Loughborough University, LE11 3TU. MEP Primary Packs, MEP Micro-media Sales, Resources Centre, Coach Lane Campus, Newcastle NE7 7XA.

MicroPrimer, Tecmedia, 5 Grandy Street, Loughborough LE11 3DU. OU Learning Materials Service, Watlington Hall, Milton Keynes MK7 6AA. MEP Readers, CET, 3 Devonshire Street, London W1N 2BA. Edward, Clwyd Technical, Unit 4B, Anwyll, Industrial Estate, Rhydyfrynwy, Mid Glam, CF7 5JH. MFA, Unifab Ltd, Clarendon Road, Blackburn BB1 4TA.

Magnus Connection, BP Educational Service, Britannic House, Moor Lane, London EC2Y 9BU. Capital Media, Education Computing Centre, John Ruskin Street, London SES 0PQ. RESOURCE and Reports from the Classroom, MEP Regional Centre, Kingsfisher First School, Exeter Road, Coventry Grove, Doncaster.

John S A Anderson is deputy director of MEP, with responsibility for teacher education.

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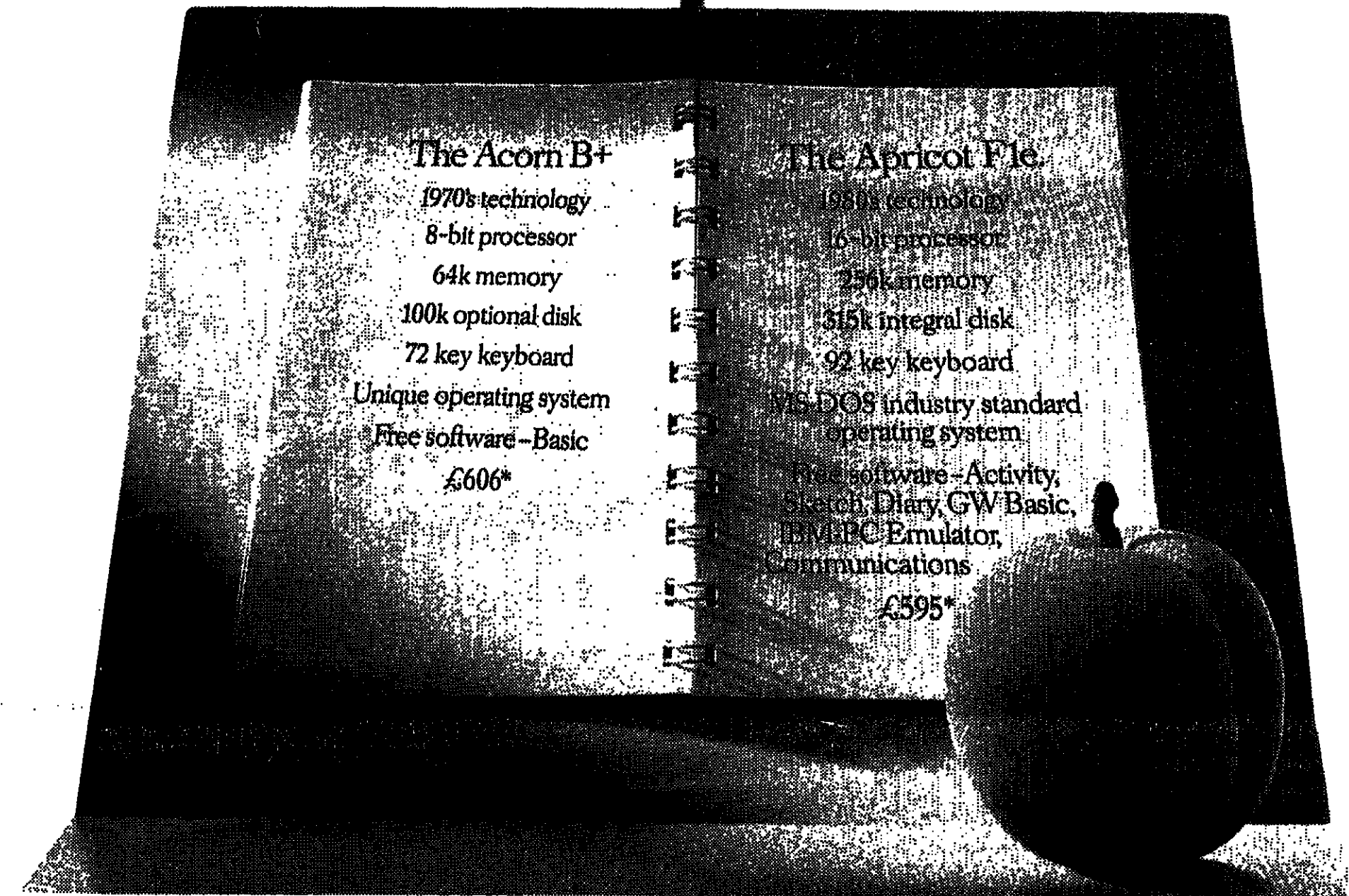
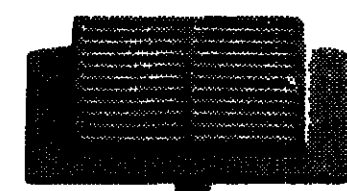
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apricot F1e

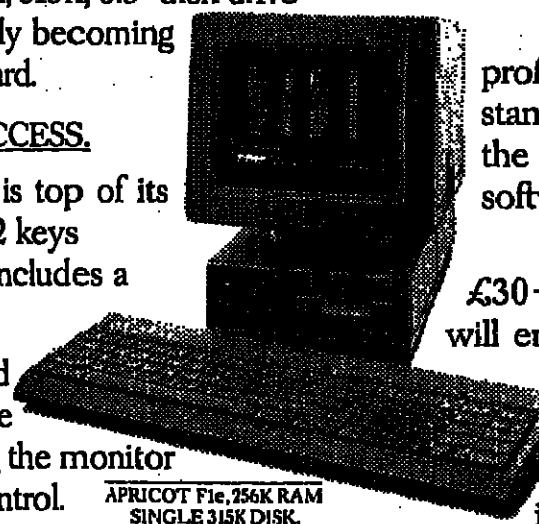


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100k optional disk
72 key keyboard
Unique operating system
Free software - Basic
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1980s technology
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MS-DOS industry standard operating system
Free software - Activity, Search Diary, GW Basic, B-TRAN Emulator, Communications
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EXTRA

EXTRA

Every school in the country now has at least one microcomputer. Many have twenty, thirty or more. Yet, for a variety of reasons, educational computing does not seem to have taken off in either primary or secondary schools in the way that many of its original missionaries had envisaged. A variety of causes have been suggested: lack of proper training and expertise; the tendency of both staff and schools to continue in the same direction ("inertia"); difficulties of organization and movement of equipment; and the constraints which impose on secondary curricula, have all been offered as reasons, causes, or excuses. But perhaps a more fundamental hindrance to the growth of true educational computing has been the lack of suitable software. Many educational programs have been dull, repetitive and unimaginative, often involving drill and routine.

Another movement in educational computing has been growing for a number of years. This argues that children should be allowed to govern and control their own learning, to learn by discovery and to explore for themselves using microcomputers. The child should program the computer. This movement's chief advocate, Seymour Papert, claims that these changes can be made possible by using the ideal language for programming computers - Logo.

Logo is a programming language, partly created by Papert, which was developed in the early 1970's. It was designed to be easy to learn, easy to use and easy to read - an ideal learning tool for children. By learning and using Logo, children could develop their own thinking skills (or "powerful ideas") which could help their learning, and develop their ability to solve problems, in other areas.

One important feature of the Logo language is turtle graphics which offers an easy and enjoyable entry into Logo for young children. This allows children to give commands to a moving floor-turtle or buggy which is connected to the computer in some way. A pen can be attached to the bottom of the turtle, which can then be commanded to draw shapes on a large piece of white paper. Children could draw a square, triangle, rhombus, house, church and spire, spiral, circle, oval or any other shape for which they can write a sequence of instructions (ie a program). They can write a program, test it, then if it fails to draw the shape they wanted, revise the program and test it again.

According to Papert this process of writing a program, testing it, revising it, then re-testing will develop thinking



Testing turtle

Jerry Wellington on a project which seeks to investigate some of the claims made for LOGO

This paper is a summary of a pilot project which took place at the University of Sheffield, Division of Education during the whole of the Spring Term 1985. A complete class from a nearby middle school came into the University once a week to work with BBC microcomputers and connected equipment, alongside in-service and initial training students. The aims of the project were, first, to provide a

different forum to investigate the potential of educational computing and, in particular, the claims made for the language LOGO; second, to allow in-service and initial training students the opportunity to use computers with children in a largely unencumbered way, and to work closely with small groups of pupils over a long period; and, last, but not least, to provide an environment rich in computers and

habits and abilities which could greatly improve a child's learning and thinking in other areas. This is one of the claims which the project tried to investigate. Valuable work can also be done with the turtle graphics feature of Logo simply by using a microcomputer and visual display screen. A screen turtle can be made to move around to create an infinite variety of shapes and patterns. The only limit is the child's imagination. Complicated programs can be built up, tested and revised, even by young children. Children are encouraged to break down a large, complicated task (such as drawing a skyscraper with doors and windows) into a collection of smaller tasks or sub-tasks. Each sequence of instructions to carry out the smaller tasks, eg drawing a window, can be combined into one group of commands called a procedure. For example a procedure to draw a square might be made up of these commands:

FORWARD 60
RIGHT 90

FORWARD 60
RIGHT 90
FORWARD 60
RIGHT 90
FORWARD 60
RIGHT 90
FORWARD 60
RIGHT 90

This sequence of instructions could form a procedure to "DRAW SQUARE". The procedure can be defined by the child and used again and again. The process of breaking a complex task down into smaller sub-tasks (called routines or procedures) is seen as an important strategy in thinking and problem-solving.

The primary aim of the Sheffield project was to study the educational claims which have been made for the use of Logo with children. These claims can be divided into four main areas: motivation, development of thinking skills, transfer of learning, and the influence of a computer culture. Papert's claims in each of these areas were examined over the course of the term. Our findings are summarized shortly. But these findings must be prefaced by two balancing remarks.

First, the statements in this article are taken out of context without arguments and discussions. These can be found in *Mindstorms*. On the other hand, many discussions on the use of Logo have an air of unqualified success about them. Our report contains its success stories, but also has a larger than most share of reservations and qualifications. The major claims made for Logo and turtle graphics were treated with healthy scepticism at all times.

The first claim, or rather presumption, connected with Logo is that children are universally turned on by it. We found, on the contrary, that motivation was often a problem. Most pupils were keen and eager to learn basic commands for drawing a figure on the screen, or for making a floor turtle move in a certain way. But the response of some children after they have drawn a square or an oblong was a question of the "What next?" or "So what?" variety.

Some did not feel any need or motivation to explore "the exciting power of the computer" or to indulge in open-ended discovery learning. This may, of course, be a result of their previous educational experiences. We were forced, therefore, to set many of the pupils definite tasks. I should like to say it but worksheets were eventually used with every pupil.

Mazes were soon drawn which the floor turtle could be programmed to negotiate. Acetate sheets, with mazes and patterns on them, were made which adhere to the VDU, thus setting a goal for the screen turtle. In this way motivation for the majority was maintained but some of us felt guilty. Had we abandoned open-ended discovery and exploration without a fight? Was Papert betrayed?

Perhaps the crux was that some children could not see the point of the activity. Five of the class had severe learning difficulties, and were unable (at ten) to read or write. For two of these children turtle graphics provided a refreshing change - they were working with their own computer, there was no sense of failure, and could proceed at their own pace. Motivation was not a problem. But for other three, turtle graphics appeared to be another pointless academic exercise. It has been implied that some of the use of computers provides instant and end-view the novelty and scarcity value of computers should not be underestimated as a major element in this motivation within schools. In the environment of this project, where every child had easy and unlimited access to a micro, the problem of motivation is a totally different one.

A second claim is made for Logo as a "powerful tool" in developing thinking and problem-solving skills. Papert, for example, suggests that by using turtle graphics children can develop "procedural thinking". This consists of

breaking a large problem down into smaller problems, then tackling the sub-problems in turn. A procedure is developed for each of these tasks, then the procedures are put together in a logical order to complete the overall task.

We found that very few of these were either willing or able to write this top-down, structural way. In two, or perhaps, three of the children reached the stage of procedural thinking by the end of the term. Some actually said that they preferred to write out a long series of unstructured commands to complete a certain task rather than first breaking the problem down.

Perhaps the bottom-up, untutored approach is the more natural one for the child, especially for a child working as an individual. Papert's conclusion is that the use of turtle graphics alone is not a "powerful enough tool" to develop structural top-down thinking. Children will be convinced of the need for it, if, in fact, there is a need.

Another aspect of problem-solving is the ability to try a solution, then if it doesn't work go back and revise it. This is the Popperian notion of scientific method as the solution, error elimination, then a solution. In our view, this "problem solving" method was successfully adopted by most of the children with little help and encouragement. They worked out their ideas with pencil and paper then tried them with the computer. But Papert's much stronger claim is that such approaches and skills of transfer across to other areas of learning and thinking.

(i) ... the computer presence could contribute to mental processes at only instrumentally but in more essential, conceptual ways, influencing how people think even when they are not removed from physical contact with a computer" (*Mindstorms*, page 4).

(ii) ... learning to use computers can change the way they learn everything else" (page 8).

These claims for transferability are Papert's strongest and they underpin his somewhat grander notion that the proper use of computers will bring about radical educational and cultural change. The problem with such claims for transfer of thinking and learning is that one is unable to falsify them. It is virtually impossible, even in thought, to design an experiment to test them. Our own experiments and those of the class teacher provided little evidence to show that any significant transfer of specific thinking skills took place in the course of twelve weeks.

This was in marked contrast, however, to one aspect of the children's learning where we did notice significant improvement and transfer - in the classroom. His broader claims for the pervasive cultural influence of educational computing also need to be examined carefully.

The relation of children's developmental stages (in both their conception of left/right and their approach to problem-solving) to their work with computers is a fascinating area. Perhaps procedural thinking is simply too "structured" for many children, or indeed adults, to cope with. How many of us think procedurally in our everyday lives? How many computer programmers adopt a structural, top-down approach in solving their day-to-day problems?

One of the unqualified successes of the project was the response of the initial-training and in-service students involved. Both groups valued greatly the opportunity to work intensively with either individuals or small groups of children over a long period. They claimed that this gave them "greater insight into the learning process", and children's difficulties and strategies. In this way they felt that their own teaching skills developed. The views of the students, and the benefits they perceived, can hardly be touched upon here. But one point was emphasized strongly from the initial trainees. They felt unanimously that teaching practice in an environment other than a school was a valuable part of their training.

References
1 Details from: J J Wellington, University of Sheffield.
2 Papert's stimulating ideas about learning and thinking are contained in *Mindstorms: Children, Computers and Powerful Ideas*, (Harvester Press, 1980).
3 Piaget, J. *Judgement and Reasoning in the Child*, (London: Kegan Paul, 1928).

Clearly it is unfair to Papert to take his claims out of context and quote them in this way. But the premise on which they are based, that learning and thinking skills developed using the computer will transfer across and pervade other mental processes, has little evidence to support it.

continued on next page

Testing turtle continued

It is worth regarding Papert's speculations on educational and cultural change through the use of computers with continuing healthy scepticism. There are surely far more powerful influences on "children's culture" than computers. Besides this, we found that with freely available computing resources (as in the University) children develop quite a "healthy" attitude towards them. They become biased towards their use in the best possible way. Claims for a pervasion of their culture hardly seemed appropriate. The use of computer hardware and software was simply accepted alongside pens, pencils, crayons and project boards.

One final claim made by Papert is that the use of computers lays open to question the idea (proposed by Rousseau, Piaget and others) that children's thinking evolves in developmental stages. Papert questions the developmental notion: "... computers can challenge current beliefs about who can understand what and at what age." (*Mindstorms*, page 4).

It is ironic therefore that one of the chief conceptual barriers we encountered was the children's problem of differentiating between left and right. This was particularly difficult for them when using a screen in a vertical plane. Some found it almost impossible, for a number of weeks, to differentiate between left and right on a screen, using a screen turtle. The problem was compounded when using a floor turtle, moving in a horizontal plane, together with a screen lying in the vertical plane.

We tried to lessen this by making a wooden cradle for the visual display unit so that the screen could face upwards. With both screen and floor turtle in the same plane, children were gradually able to overcome their right/left difficulties. It is interesting to note that Piaget studied these problems in 1928 and found that a "third stage" or fully differentiated conception of right and left rarely developed before the ages of 10-11.

Perhaps then the notion of developmental stages does have relevance in educational computing. The evolution of a top-down approach to problem-solving, and the use of procedural thinking may well be stages truly beyond children at certain ages. The connection between developmental stages and children's work in Logo is surely well worth further investigation.

I would hesitate to draw any firm conclusions from the project, except to say that one term is too short for a study of this kind. Its main benefit is perhaps to point to specific areas for further study. Papert's claims for transfer of learning need careful and systematic investigation before they can be believed. His broader claims for the pervasive cultural influence of educational computing also need to be examined carefully.

The relation of children's developmental stages (in both their conception of left/right and their approach to problem-solving) to their work with computers is a fascinating area. Perhaps procedural thinking is simply too "structured" for many children, or indeed adults, to cope with. How many of us think procedurally in our everyday lives? How many computer programmers adopt a structural, top-down approach in solving their day-to-day problems?

One of the unqualified successes of the project was the response of the initial-training and in-service students involved. Both groups valued greatly the opportunity to work intensively with either individuals or small groups of children over a long period. They claimed that this gave them "greater insight into the learning process", and children's difficulties and strategies. In this way they felt that their own teaching skills developed. The views of the students, and the benefits they perceived, can hardly be touched upon here. But one point was emphasized strongly from the initial trainees. They felt unanimously that teaching practice in an environment other than a school was a valuable part of their training.

References
1 Details from: J J Wellington, University of Sheffield.
2 Papert's stimulating ideas about learning and thinking are contained in *Mindstorms: Children, Computers and Powerful Ideas*, (Harvester Press, 1980).
3 Piaget, J. *Judgement and Reasoning in the Child*, (London: Kegan Paul, 1928).

Clearly it is unfair to Papert to take his claims out of context and quote them in this way. But the premise on which they are based, that learning and thinking skills developed using the computer will transfer across and pervade other mental processes, has little evidence to support it.

continued on next page

Crucial criteria

Paul McGee on changes in computer studies

says that the assessment must provide all candidates with the opportunity to demonstrate what they know, understand and can do, and differentiation will be achieved by presenting candidates with tasks of ability appropriate to their individual level.

Paragraph 6.1 of the National Criteria for Computer Studies adds further requirements to the principals so far enunciated. It says that schemes of assessment must assess the objectives validly and reliably, provide meaningful work for the candidate, and promote good teaching practice.

Examination groups which are trying to devise their GCSE syllabus for submission in the autumn, could consider a variety of options. The first, and superficially most obvious, relates to the distinction between program-

ming and the use of pre-written software. There is no doubt that many less able pupils find that programming in BASIC limits them to problems which would be better performed without the use of computers. It fails to give them a realistic view of the power and limitations of the computer to perform tasks which would otherwise be unduly tedious or difficult.

This fact has led some people to argue that candidates who use a package should be restricted to the lower grades. Since all current O levels have the requirement that candidates carry out a programming activity, it might seem reasonable that programming, as it is commonly understood, should be used if the candidate is to gain the highest grades. There are certainly many teachers, and pupils, who feel,

for example, that there is more merit in writing a program that creates, maintains and interrogates a file rather than using a database package to do so.

All this is based on some mystical idea of what constitutes programming, and possibly confuses coding with problem solving. Many sophisticated database packages, such as dBASE or dBaseMaster, allow as much control of the computer as commonly used versions of Basic. It should also be remembered that the Basic interpreter/compiler and the operating system are pre-written software and what the candidate can do is limited, or facilitated, by the systems software.

The distinction between programming and using pre-written software is partially supported by the Grade Descriptors for Objective B which says, "A Grade 1: Candidate would have attempted a fairly simple problem and would most probably have tackled it using pre-written software". This should be taken more as a statement of what such candidates can achieve using the two approaches rather than as a statement that those who use pre-written software will be excluded from

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EXTRA

Crucial criteria

continued

the higher grades. Another approach, is to set the same general tasks for all candidates and to differentiate by the response. The problem then becomes one of devising a reliable assessment scheme which discriminates sufficiently while ensuring that candidates are awarded grades only on positive performance in a meaningful activity which enables them to demonstrate a coherent set of knowledge and skills.

Two strategies seem possible: a scaling factor applied to marks awarded regardless of the difficulty of the problem, and assigning absolute marks for particular skills. The scaling factor method could be very subjective, as well as being prone to confusing the inherent difficulty of the problem with the quality of the solution, particularly where the relative merits of programming and other approaches.

Assigning absolute marks suggests that candidates may be awarded a grade for a random collection of marks. The Cockerill Report, whose author is now chairman and Chief Executive of the Secondary Examinations Council, was very scathing about forms of assessment where candidates were awarded a grade for about a third of the total marks. There is therefore the danger that this method would fail to discriminate effectively because of the difficulty of getting several grades into about 60 per cent.

To overcome the problem of grades being obtained by an incoherent collection of skills, the lower grades could be obtained by attempting only part of the complete process of using a computer to solve a problem. An obvious example would be to specify and test work which someone else implemented. There are obvious dangers in such a proposal because the candidate is depending heavily on someone else. The idea was tried as an option in the London O level Computing Studies but was withdrawn because candidates could not do enough worthwhile specifying and testing for an O level grade.

A further suggestion is that there should be a set of core skills in simple machine use. This could include the use of a database, wordprocessor, spreadsheet and a graphics package. Candidates would have to show proficiency in say three of these to gain a Grade C, and in all four to gain a Grade B. Higher grades would be obtained by attempting a worthwhile

problem in addition to showing these basic skills.

This and the previous suggestion have some similarities with several current schemes where candidates write a number of programs which display particular techniques, eg repetition, decision making and use of data structures. It is hard to see how many of these three approaches comply fully with Objective B's requirement to solve an appropriate problem. If anything, they seem to completely contradict the approach in the National Criteria in that they ask pupils and teachers to find appropriate problems for particular techniques rather than finding sensible ways of meeting a user's needs.

Things could be very different when the examinations are criterion referenced but the first syllabuses have to be based on the published criteria. It will be interesting to see whether the grade related criteria place their emphasis on the machine oriented skills of writing something, or on the ability to derive the information processing requirements of the application as the current criteria do, or on the candidates ability to communicate the solution as the current London O level does.

The problems of differentiated assessment in relation to control applications are different because sensible uses of control technology to solve appropriate problems involve a lot of work which is unrelated to computer studies. For example, a system to open windows when the temperature rises above a certain value will encounter difficulties in acquiring a motor of the correct power which can be interfaced with a given computer and fixed to the window without undue damage.

Simulations

Those candidates who attempt real problems will quickly join those who simulate the problems using the kits. It is hard to see how a simulation of a lift set out on a table in the classroom is of comparable standard to actually maintaining the membership lists for school societies. Most examinations boards are currently very reluctant to accept sample or simulated data processing files and may be unwilling to accept simulated control applications for similar reasons. However, most commercial control applications are frequently developed on simulators because of the expense or danger of testing the real application. Part of the problem stems from the fact that MEP and HMI are pushing control applica-

tions in computer studies without providing convincing justifications, beyond pupil enjoyment, for separating the control application from any other application of computers.

If concessions are to be made for control applications then a definition of what constitutes control applications will have to be given by individual boards. It is not immediately clear why the devices to be controlled are not the printer, plotter, or visual display unit and the input device which triggers them is not the keyboard. If some grades are to be restricted to certain types of project, then it is not clear whether control applications will be seen as hard or easy, or how the answer will depend on the availability of pre-constructed interfaces and related software.

What is clear is that programming no longer has such a central place in computer studies at 16 plus. It will almost certainly mean that most programming that is taught will have to support other objectives so that room can be made for pupils to gain familiarity with a variety of software. This latter task will be made easier if pupils follow precisely based lower school courses in information technology or computer appreciation.

Many schools will undoubtedly need further hardware and software, and computer studies teachers will have to be more positive about using technology sensibly to solve some of the organizational and teaching problems. As paragraph 1.6 of the National Criteria says, "bearing in mind the backwash effect of examinations it would be foolish and unhelpful not to make worthwhile demands because of present limitations".

Serious doubts remain about whether the GCSE Inset exercise can do any more than make teachers uncomfortable aware of the problems. It is said that MEP's response has been to virtually eliminate the computer studies domain in the mistaken belief that most of the work has been done. The best hopes for the long-term and large scale development of computer studies teachers seems to lie with the RSA Computer Teachers' Diploma which MEP is promoting. Details are obtainable from Susan Unwin, RSA, John Adam Street, London WC2N 6EZ.

Computer studies should look for advice to their I.C.A. adviser where such a person exists for computer studies, otherwise they will have to depend on cooperative self help groups. The penalty for failing to adapt the new requirements will be high, but the rewards for meeting the aims and objectives of the National Criteria will be much greater for pupils and teachers alike.



Early stages

P W McNeill on the computer in the social sciences

The recent emergence of the micro-computer from the specialist laboratory into the general classroom has resulted in initiatives right across the curriculum. However, while it is easy to see that the micro has a role to play in the teaching of mathematics, statistics and the natural sciences, its potential elsewhere is still being explored. As far as the social sciences and the humanities are concerned, this exploration is still at a relatively early stage, though the design of simulation exercises for history, geography and economics teaching is becoming increasingly sophisticated. The work of the Computer in the Curriculum Project at Chelsea College is making an important contribution in this area.

But what is in fact possible? Essentially, the computers currently available, especially micros, are more or less sophisticated data-processing machines. In the case of micros, and particularly the BBC micro, the limitations of memory size inevitably restrict the range and variety of potential applications. There is also a problem inherent in the nature of sociology. Sociology, particularly at GCE A level, is about ideas, and about the rival merits of different interpretations of evidence. Its fundamental arguments are theoretical and analytic, and much of the evidence cited in support of them is qualitative rather than quantitative. A data-processing machine, however sophisticated in its own terms, is ill-suited to such activity.

A recent conference, held at the Education Department of Keele University and attended by over ninety people, addressed just such issues. Its intention was to bring together people from a wide variety of educational backgrounds to introduce them to some of the software currently available, and to encourage open-minded discussion of future possibilities. On the day, conference members came from secondary schools, FE colleges, sixth form colleges, colleges of higher education, polytechnics and universities, confirming just how widespread the interest is.

The most obvious application of the computer for sociologists is the manipulation of demographic or other statistical data. Those with access to a mainframe computer (almost exclusively those in higher education) are able to draw on a substantial databank. For those with access only to micros, the Longmans *General Household Survey* package which was introduced at the conference, seemed to have the most potential. Written in BBC Basic, this package is based on the manipulation of data taken from the 1979 GHS. Each of three disks, which can be bought as a set or separately, contains roughly the same program, but different data, on poverty, gender and class in Britain. Accompanying documentation enables the user to follow a short course on the chosen theme, extracting data from the computer at appropriate points.

Alternatively, and probably more interestingly, the programs may be used

as the basis for project work in which students identify the questions they want to ask, designing and testing their own hypotheses, and discovering relationships between variables.

The program enables the user to manipulate the data in a variety of ways, including correlations, and to be endlessly inventive. As a source of representative data about its themes, this package is inevitably limited by the size of the BHC's memory. The GHS itself is a sample survey, and this package uses only about 20 per cent of the data therein. As an introduction to research using secondary data, and as a basis for project work, it has considerable possibilities.

Other workshops at the conference considered the use of simulations in sociology teaching. Roger Fielding of Barr Beacon School, Walsall, is developing a biographical simulation, which leads the user through the lifetime of an individual with user-specified social characteristics (male/female, black/white, working class/middle class, etc). Research evidence is used to "load" the life-chances of the individual from birth, through schooling and employment to marriage, housing and old age.

Murray Morrison at South East Essex sixth form college is working in a similar area, attempting to apply the adventure game format to this kind of simulation. A problem of this work is to show the probabilities for whole categories and groups while avoiding over-determinism in relation to individuals. The fact that it is most improbable that a black working class girl will become a director of a bank does not mean that it is absolutely impossible.

GCE students find it hard enough to understand simple probability, and often write examination answers in terms that stereotype groups in exactly the way the teacher is trying to discourage. Simulations like these must avoid such determinism. Those developing them are very conscious of this, and are devising appropriate classroom strategies.

An attempt to use the computer for processing qualitative data seems to run into a fundamental conceptual problem. Qualitative data, by definition, not amenable to statistical treatment, unless first converted into numeric form. This might be done through content analysis of recorded observations, or of responses to unstructured interviewing, but this seems to be an over-ambition of the essential validity of such data. The naturalism of the ethnographic study is surely lost as soon as the researcher begins to classify data into categories for statistical manipulation.

Two other possible areas for development might be considered. Ludovic Alexiev and Peter Rabbits of the History and Social Sciences Teachers' Centre in South London are working on the development of a social sciences database using the SIR package. Similar materials might be used in the production of a resources catalogue for teachers and students in GCE sociology.

Building on an idea of Roger Gomm's, David Barrat of Loughborough College, has considered the potential of the micro in processing the writing of essays in sociology. It should be possible to develop a program of files that are comparable with a wordprocessing package and which provide the user with a set of possible essay titles, together with a number of "chunks" of material, including brief summaries of key research studies. The students' task is to select those "chunks" and passages that seem most appropriate and to arrange them, with linking passages of their own, into essay form. The word processing facility enables quick and easy entry and deletion of material, and the writing of any number of drafts before the final product is printed. Clearly, this idea has relevance far beyond the sociology classroom.

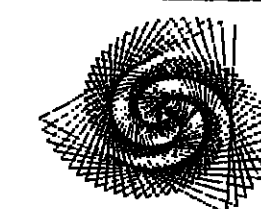
The same is true of the work of David Evans, of the Birmingham Open Learning Development Unit, who has recently visited the USA to look at work in computer managed learning systems, particularly "Camelot" which runs on an IBM system. These are not subject specific, and have potential relevance in any context where the student is intended to be independent of a traditional teacher. There is plenty of imaginative thinking going on in this area. Only time will tell how much of it will lead to useful classroom materials.

P W McNeill is a lecturer in sociology at St Albans College.

EXTRA

New styles

Derek Ball on micros in maths



to make use of the computer for the sake of it. Not only is it more fun to explore the "frogs" investigation by moving people or pegs, but pupils retain more control over the problem and the methods they can use to tackle it.

There are programs of a very different kind that can be used to support investigations. One of these is *Aspir*,

produced by Shell-ITMA. *Aspir* makes it easy for pupils to investigate drawings which are commonly known as "worms". The program does not ask questions; instead it helps pupils investigate problems posed by themselves or by teachers. Teachers can ask specific questions such as the following: "Can you get *Aspir* to draw these?"

Alternatively, pupils can be encouraged to explore more general questions for themselves, such as the following: "What different types of drawing can we get if we specify three lengths and an angle of 90 degrees?"

Aspir makes it easy for the level of demand of the tasks tackled to be varied, either by the teacher or by the pupils themselves as they use the program.

A different type of openness is provided by adventure games. *L-A Mathematical Adventure*, produced by ATM, is the best-known example of a mathematical adventure game. It is widely used (both in secondary classrooms and with older juniors) and invites pupils to investigate not only mathematical problems but also the contexts in which they are posed. Teachers seem to find it relatively easy to allow pupils to use their own initiative to solve quite difficult problems with little help, and the program seems successful in motivating pupils to do this.

Some programs are open in the sense that they offer facilities to teachers that can be used not only in various ways, but also in connection with several different syllabus topics. Programs, such as *Function Graph Plotter*, that draw algebraic graphs, are obvious examples. The program *Locus*, produced by Shell-ITMA and sadly only available on RML machines, is also of this type: the user specifies fixed objects (points or line segments) and the conditions to be obeyed by the locus; the computer then draws the appropriate locus. The program, *Moves*, available as part of *Some Lessons in Mathematics with a Microcomputer* (published by ATM), provides a similar facility for geometrical transformations.

The more versatile a program, the more help and guidance is required if teachers and pupils are going to make full use of it. Programs such as *Function Graph Plotter*, *Locus* and *Moves* do not specify tasks to be done. They can be used in connection with the learning of several different topics, but teachers and pupils may need to be provided with ideas about which topics are suitable and which approaches are possible.

This is perhaps even more true of programs such as *Counter* and *Tilekit* which are programs that can be used for many different purposes throughout primary and secondary

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EXTRA

New styles

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schools. One way of providing such support is to publish books to accompany disks of programs. Such books can describe each program on the disk and provide detailed accounts of several different ways in which teachers have used it in their classrooms. *Some More Lessons in Mathematics with a Microcomputer* is such a book, and *Counier and Tiekli* are two of the programs whose uses are described in it. *Micromath* is a new journal which keeps mathematics teachers informed of current developments and describes how programs have been or could be used in classrooms.

The most versatile piece of software available to pupils is a general-purpose programming language, such as BASIC or Logo. Pupils in primary and secondary schools have for some time had the opportunity of writing turtle geometry programs using packages such as DART (available from AUCBE, Endymion Road, Hatfield). Now Logo, which has been previously available for computers such as the Apple and more recently for RML machines, can be purchased in the form of a chip for the BBC Microcomputer. The programming possibilities opened up by this development have yet to be explored. Pupils can, for example, write programs to get two turtles on the screen at the same time. Much geometry can be learned using programs such as these.

The language most commonly available at present is Basic, and there is renewed interest in the possibility of learning mathematics through writing and modifying Basic programs. Anita Straker, in an article to be published in the second issue of *Micromath*, suggests that primary teachers who write drill programs for their pupils probably learn a great deal more mathematics from writing such programs than pupils learn from using

them. She concludes that there may well be a place for writing Basic programs in the primary mathematics lesson.

Jim Seth's booklet *Problem Solving Worksheets for use with Microcomputers* (published by ATM) provides several very simple examples of programs that can be typed in and modified. Adrian Oldknow's book, *Learning Mathematics with Micros* (published by Ellis Horwood), provides many such programs, most of them more suitable for secondary classrooms.

The Mathematical Association has recently produced a disk of 132 *Short Programs*, though on the whole these are more suitable for older secondary pupils.

Little has been said yet of the needs of A level students. Serious consideration is being given to the possibility of producing a radical new A level syllabus that takes full account of the "new technology". If this happens many more students will be involved in writing and modifying programs of the type provided in the Mathematical Association's collection, and much more software of a similar kind to the excellent programs produced by MEI (11a, West Street, Oundle, Peterborough) will be required. In time the ready availability of calculators and computers is likely to produce significant changes in mathematics curricula at all levels. The new curricula may well require software of a quite different kind from that available at present, so that pupils can both learn completely new skills and also make use of machines to perform tasks which previously they had performed themselves.

Derek Ball works at the University of Leicester School of Education and is one of the editors of *Micromath*, a new journal for primary and secondary mathematics teachers, published jointly by ATM and Basil Blackwell.

This review of the BBC B+ has two major components. First the facilities of the new computer, and the ways in which it is different to the BBC Model B Microcomputer. Second I consider its likely effect on education, considering these differences in current pricing structures and competition.

On unpacking a BBC B+ one could be forgiven for examining the machine twice. The case is the same as that of the model B and any differences are only apparent on looking inside the computer or using it. In addition the B+ comes with an updated User Guide, covering the Model B range, as well as including the updated B+ information. A disk filing system manual is also included.

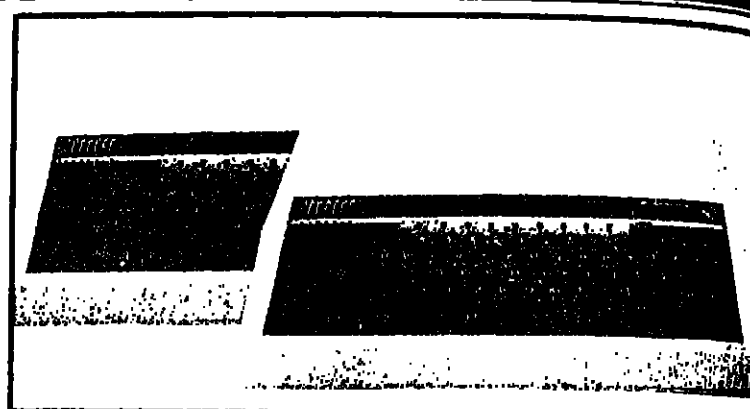
The keyboard, power-supply and input/output facilities of the Model B remain. The main logic board has been redesigned. In the same area, as the Model B, Acorn have added extra RAM (Random Access Memory), extra ROM sockets (Read Only Memory) and have included a disk filing system as standard.

The packing proclaims that the B+ now has 64K of RAM as standard, and indeed this is the case. In real terms, however, the RAM space for user programs is either identical to the model B, or by software selection can be extended between the top of the machine's workspace (Hex 1900) to the start of Sideways ROM (Hex 8000). To accomplish this task the screen memory can be switched to 20K of "Shadow RAM". This means that long (up to 20K) programs can now be written which will use the high resolution screen modes. Programs which were originally written in Mode 7 (the Teletext Mode) can only benefit from about 1K of extra memory, because 1K is the size of the usual teletext screen memory.

In the past this shadow RAM facility has been provided by add-on boards, and it has been possible to make use of their extra memory to store data by using extended programming techniques. This facility may be available on the B+ but is not documented.

Of the 64K RAM available, the standard configuration uses 32K. The Shadow RAM uses a further 20K, and the final 12K is addressed in the area of the Sideways ROMs. This means that it is possible to write a service utility in machine code, and load it into RAM in the same address space as the ROM chips. This again saves RAM space, but the user either needs to be able to program at machine level to make use of this facility, or software needs to be provided.

There are now six ROM sockets available but two are already filled



Bigger twin

John Telford reviews the BBC B+ micro

with the disk filing system, the operating system and BASIC. Unlike the Model B sockets, those of the B+ can take 32K chips, internally addressed as two separate 16K ROMs. This is the case with the new BASIC and operating system combined ROM. The potential therefore is for the equivalent of ten 16K sockets in addition to the BASIC and operating system chip. Again a feature which until now has only been available from add-on boards.

In order to improve the availability of disk interfaces, the version used in the B+ employs a different controller chip, the 1779, which is regarded as being in more plentiful supply. This means that software using the old 8271 chip commands and addresses directly, will no longer run. This includes some commercial protected software, and some ROM chips which investigate the contents of disks.

The B+ is "driven" by a new processor, the 6512. This has improved timing circuitry, but otherwise is identical to the earlier 6502 processor. Certainly there was no apparent improvement of speed on the B+ itself, although there was a very slight improvement in the B+ and second processor combination, over the Model B and second processor.

On switching on the computer the familiar "BBC Microcomputer 32K" message has vanished, replaced by "Acorn OS 64K". Under which a message "Acorn 1770 D15" appears. The "BBC BASIC" message is retained.

The computer behaves as a normal BBC model B unless one of the new commands is typed. These include ROMS, "SHADOW", "FORM", "VIEW", "FREE" and "MAP". The first two commands are built into the operating system which is hence upgraded to version 2.00. "ROMS" lists the ROMs plugged in memory. "SHADOW" selects the shadow RAM, while "SHADOW 1" switches back to the model B configuration.

The other commands are upgrades to the disk filing system, and this also includes the software to run the Tube connection to a second processor. It is possible to access shadow memory by giving a MODE command, modes 9 to 1 are BBC model B modes, while modes 128 to 135 use shadow memory. I would think that the B+ is about 99 per cent compatible with the Model B when used without shadow RAM. Certainly almost every piece of educational software which I have had a chance to test runs without changes. Software which needs modification appears to be either making use of low level calls (undocumented by Acorn) to the old 8271 disk controller, or is performing direct screen access via memory locations.

Both *Wordwise Plus* and *embarrassingly* Acorn's own wordprocessor *VIEW* (Version 2.4) must be used carefully. Acorn is providing a correction routine on disk via dealers for a bug which has occurred because *View* was not written with the B+ in mind. New versions of *View* will operate correctly with the B+. *Wordwise Plus* needs "SHADOW" to be typed before preview and "SHADOW 1" to be typed before text entry. In addition most computing games will only work with the B+ when it is set up as a BBC model B, because of the way that they access the screen.

The B+ is compatible with previous products, but is extended to cover the most frequent complaints of the last two years, that of screen memory and ROM space. I think it is important that the B+ is not seen as a new micro, but as the continued development of the B

There is an indication that Model B with disk interfaces are in relatively short supply, and their nearest equivalent would be a B+. I suspect that by September, stocks of the B series will be almost depleted leaving only B+ with optional Econet upgrade.

The B+ itself costs £435 ex vat. Dealers may get this price down to around £415 with their own educational discount, and Acorn is currently negotiating bulk orders with L.E.A.s at about £40 off per micro.

The Acorn Micros in Schools scheme ends on May 31 which means that schools looking for equivalents to model Bs with disk interfaces are faced with a rise in price of between £50 and £100 (in the worst case). However the price rise is offset by the extra features offered by the B+.

The shadow RAM and ROM sockets as add-on boards to a model B would almost certainly cover the difference in cost between the two micros, and so the value for money of the B+ can only be measured by the use to which it will be put.

Although the extra facilities will be of eventual value in primary schools, the practicalities of the situation are that, with the majority of schools using model Bs, software houses will (in the short term) continue to produce software which will run on the model B, rather than making full use of the B+. If this occurs then the majority of primary schools will see the B+ as a Model B + £100.

Secondary schools using the Micro only as a "TAI" tool with "bought-in" software will, I suspect, feel much the same as many of the primary schools. Those schools able to alter software, or to write their own will see an immediate improvement and will feel that the B+ prevents good value for money. This is particularly the case where programming, control and design work is being done.

The comments on use of the BBC+ primary and secondary sectors look good for IIE and FE, except that the current controversy over MSDOS and 16 bit machines will colour the argument. The B+ is not a 16 bit machine. It is therefore not possible to compare a B+ directly with such a machine, and this comparison would have to be made between say a 16 bit machine and a B+ with an appropriate second processor. Even in FE and HE, however, the B+ has much going for it as an educational tool, compatible with existing machines.

Recent comments attributed to the DTI have fuelled the debate as to whether the value of a computer for education lies in the number of bits available to that machine's processor. Certainly direct memory access and speed of operation are directly related to bit size. Some, however, might consider that there is much truth in the comment that many institutions calling for bigger, faster machines have not yet made full use of all the facilities of existing machines.

The B+ overcomes most of the criticisms of the Model B series, as a stand-alone machine. While this will be a comfort to those schools with a large Model B commitment it must be added that the B+ does not represent a significant advance.

The BBC micro feel and reliability is still evident, and with shadow RAM and extra ROM sockets program can extend the application range of the machine, but because of need for compatibility of commercial software, extended application software will not be widely available immediately.

Finally, I think the machine is overpriced. £435 ex vat would have been a better educational ceiling.

EXTRA

New generation

Mike Doran on the implications of major technological developments

Whether we like it or not, microelectronics must ride on the back of commercial innovation, production and marketing. As a relatively minor consumer of high-tech products, the educational system can no more determine standards for microcomputer design and manufacture than it can for, say, videorecorders. The imperatives in this respect lie with the demands of the high street and the world of commerce. It is there that product specification is aimed, as is the resulting price structure. The best education can do, is to examine what is on offer and at what price, and make wise judgements, all the time realising that what we end up with in the classroom will be a compromise.

Up to now it has been possible for the educational world to develop software for the classroom with some pretensions to meeting some pre-specified educational aims - well, at least some software falls into this category! But as we move to the next generation of 16-bit microcomputers, with software development becoming increasingly complex and correspondingly expensive, it is unlikely that the small, specialized education market will be able to sustain major software developments. Again, we shall be forced back into the commercial market-place to see what the office/home market can offer the classroom, and given the right adaptation, presentation and support, do to perform an educationally legitimate function.

In making sound purchasing decisions to resource microelectronics education, it therefore becomes necessary to stray away from the educational press and keep a watching brief on the changing picture presented by the computing press. Fortunately, in crude terms, there are only a few market leaders to worry about, once you have grasped the jargon of the trade.

The rest of this article is concerned with current trends in hardware and operating system software, and it attempts to put things into some sort of historical as well as educational perspective.

For the past five years, educational computing in schools has been dominated by two microcomputer systems - RML 3802/4802 and the Acorn BBC. These are eight-bit machines, which means to say, that at their heart, processing is carried out by a microprocessor chip that can handle data in chunks of eight-bits (1's and 0's) at a time, and typically address memories of up to 64K (64,000 bytes or characters). The chips respectively are Zilog's Z80 and MOS Technology's 6502.

The next generation of microcomputers is now in the shops, and is based on 16-bit microprocessors, which can process data much faster, and can address much larger memories (up to 1MB (1,000K). When IBM entered the microcomputer market with the IBM PC, their adoption of the Intel 8086/8088 family of microprocessors secured for INTEL an effective industry standard in the market place for 16-bit microprocessors. The only real competition at present to their market dominance, is the other giant chip manufacturer, Motorola, which produces the very powerful 68000 family of microprocessors, used for example in the Apple Macintosh (more about this later).

After the microprocessor, the next consideration is the operating system (OS), the software that acts as an interface between the user and the computer, handling the input/output of the keyboard, screen, printer, disk drives etc, and interpreting system commands. Essentially, the OS acts as a link and controller between the components of the computer, and enables the user to simply issue commands like "format the disk in drive 1", which are then duly carried out without any further systems knowledge on the part of the user. An operating system is, therefore, a control program, providing the user with easy and convenient management control over the resources of the computer. It functions in essentially three ways:

- Controls input/output to the computer's peripherals, eg screen, keyboard, disk drives.
- Provides the general housekeeping or management of files/programs stored on disk, eg directories, copying, deletion of files.
- Enables the loading, saving and execution of user programs.

In the past on eight-bit microcomputers, the dominant OS was CPM (Control Program for Microcomp-

ters) and was developed in the 1970's by Digital Research. This is the OS used by the RML, and comes on disk configured to the 3802/4802 environment. Acorn designed their own OS for the BBC microcomputer called DFS (Disk Filing System) and is permanently resident in the microcomputer in ROM (read-only-memory) for instant use on power-up. People argue heatedly about the user-friendliness of different operating systems, but it usually comes down to individual preference, and the extent to which you want to get into the machine. However, there should be no excuse for cumbersome operation or unintelligible error messages. Indecipherable error codes and hexadecimal screen dumps are definitely undesirable.

Again, IBM have forced a de facto standard for a 16-bit OS by adopting a version of Microsoft's MSDOS called (you guessed it) PCDOS, and at the same time, securing Microsoft's position as the "biggest of the micro-

software companies. The outcome of this is that in the 16-bit marketplace, MSDOS is dominant, with Digital

It is at the high street and the world of commerce that product specification is aimed, as is the resulting price structure. The best education can do is... make wise judgements, all the time realising that what we end up with is a compromise

Research fighting back hard with CP/M86 and Concurrent CPM. The latter enables the user to run several programs at once, a process called multi-

tasking. You might, for instance, be writing a departmental budget submission for the head using a word-processing package whilst at the same time, a spread-sheet package is juggling the figures of last year's budget to be subsequently incorporated into the report. MSDOS has been adopted by RML for their new 16-bit machine, the Nimbus, and looks like being the standard OS for educational micros.

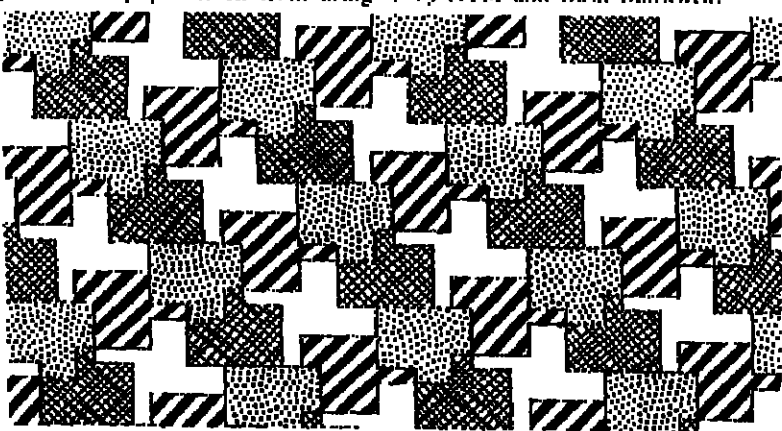
With all this extra power unleashed by 16-bit microprocessors, a significant advance in the user-interface has occurred, generally referred to as "windowing" under "mouse" control. To get a feel for what's in store for the classroom, take a look at the Apple Macintosh. Its built-in user environment of symbols or "icons" (eg, "dustbins" for disposing of unwanted files), pull-down menus (showing at a glance, at any time, what facilities are available to the user) is common to all Macintosh software, making life easier both for the user and the applications programmer. The user drives the soft-

ware through a hand-held device called a "mouse".

Instructions are given, merely by pointing at the appropriate icon or location on the screen without all the disadvantages of touch-screen and light-pen devices and with far more precision. The Macintosh (£1,349 to education), is rather pricey for schools at the moment but with cheap Atari and Commodore look-alikes imminent, prices will soon be within the reach of schools. Moreover, the manufacturers of the existing range of school microcomputers, Research Machines Ltd and Acorn, have not been slow to adopt the new technology.

The implications for educational software development, are problematic. Development costs of software that can use all this power on behalf of the classroom seem prohibitive, at least on the quantity rather than the quality basis of the past. The only way forward would seem to be for education, consensually to agree to the national development of a small number of content-free, powerful tool-based packages and leave the teachers and the children to fill in the details. In the meantime, i.e.a.s must make sensible decisions about hardware and operating system standards and gear their support/advisory effort to this new generation of microcomputers.

On page 50 Ray Hammond surveys new microcomputers



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EXTRA

You can't see the joins

Nick Baker visits a school which has developed a computerized report writing system

Mention the impending report writing season and most teachers' faces will fall. Not so those at Lea Manor High School, near Luton, where a set of 30 subject reports could take a teacher as little as twenty minutes to complete, often without writing more than a few words.

Lea Manor's involvement with Bedfordshire's TVEI scheme, combined with its forward looking computer policy has resulted in (among other things) an almost painless report writing system. Computers have taken the donkey work out of one of the most demanding report tasks, the preparation of TVEI profiles on leaving fifth years.

The system, common to five participating TVEI schools in the county, was developed by Phil Neal, the scheme's co-ordinator at Lea Manor. At the heart of each profile are two detailed reports. One is a fairly traditional looking subject based sheet, contributed to by the student's subject teachers. The other concerns itself with the student's skills, like communication, numeracy, the ability to use equipment, reading and understanding and problem solving. The neatly typed document is compiled almost exclusively on one of the schools two ACT Sirius micros, from a large "bank" of pre-prepared comments, designed to meet every eventuality.

The skill summary section of the profile works across the curriculum. Each of the student's subject teachers is required to fill in part of a grid, under various headings appropriate to his or her subject, for each student. Thus the English teacher fills in the grid under the headings of writing, listening and talking, reading and retrieval of information, whereas the science teacher fills it in under the heading of reading, practical dexterity and co-ordination and problem solving. What each teacher actually writes on the grid is a number. In each case, the number corresponds to a comment, or part of a comment, listed in a 26 page booklet. The comments are numbered qualitatively rather than quantitatively. That is to say they refer to how many skills a

student has, not how well he performs. Thus comment number one in the writing section is: "Jenny can, with guidance, write brief notes, simple messages and instructions." Comment number six in that section reads "Jenny uses mature judgement and an extensive vocabulary to tackle a wide variety of written tasks, both familiar and new, suiting style and form to the situation." Another set of numbers is devoted to spelling and punctuation.

An example - the comment on Jenny's skill-based report about her ability to solve problems. Jenny's biology, social studies and maths teachers have chosen comment number four from the leaflet, both for problem solving and planning. These numbers indicate comments that show Jenny to be a pretty skilful young lady. High numbers usually mean greater reserves of ability. However, Jenny's social studies teacher gives her a paltry two for problem solving and one for planning.

The final selection of comments is not arrived at by averaging the numbers. A computer could perform an averaging task, but the computer doesn't know Jenny, or her social studies teacher, as well as Jenny's form tutor does, and the tutor is responsible for the final selection. The tutor knows that the social studies teacher is new to the school and the system, and he knows that Jenny takes a little while to become confident with new faces. So the tutor doesn't reject the social studies teacher's assessment completely, but tempering justice with mercy he selects comment number four for problem solving and number three for planning.

Thus this section of Jenny's skill-based report, compiled from the computer's stock of pre-prepared com-

ments reads: "Jenny can cope with complex problem solving tasks providing she is given guidance and can plan, carry out and evaluate a simple project using a variety of sources." So, from the tutor's final selection from all Jenny's subject teachers, each assessing skills appropriate to their subjects, the computer selects 25 sentences or parts of sentences and strings them together into an efficient if uninspiring piece of prose.

"Comment banks force people into specific judgements... you can't have a neutral comment"

There are similar "comment banks" for other sections of the report. Subject teachers, for example, draw on prepared comments appropriate to their subject. In a minority of cases, teachers find the need to write "original" comments where the packaged ones aren't quite right. In these cases the computer, wasting nothing, is programmed with these new comments, thus increasing its repertoire. In fact the only part of the report not compiled in this way is the students own self assessment, arrived at in consultation with the student's tutor, who has little or no "editorial" control, beyond warning his pupil that the error for hula hooping or BMXing may not last as long as his TVEI profile. Even with the self assessments, the micro takes a hand, as students wordprocess the final edition. The micro even obligingly passes the self assessment through a spelling checker. "Selling" the scheme to teachers in

the five participating schools was a massive and time consuming task, says Phil Neal, whose job it was to get the system working. One of the immediate worries was that comment banks would encourage sloppy, inaccurate reporting. Neal believes that the reverse is more true. The bleary eyed teacher, still hunched writing reports in the early hours of the morning is very prone to inaccuracy and repetitiousness, he believes. "Comment banks force people into specific judgements", he adds. "You can't have a neutral comment."

Another worry came from the English and humanities side of the staff room, where people prided themselves on the ability to choose their own words. Even they became sold on the idea, seeing its potential to take the sweat out of report writing.

Local employers and colleges of FE (Lea Manor is an 11-16 school) were also consulted, and responded favourably, particularly to the section dealing with pupils' skills. The school has now extended the scheme throughout for compiling subject reports, with a different bank of comments appropriate to each year. For example, when writing a report for a first year pupil, it is impossible to be too "unkind" in an appraisal. As far as the style of writing of these documents is concerned, the degree of impersonality is compensated by increased accuracy and sense of purpose.

Sicklers may find some of the repetition of individual words irritating ("able", "capable", "competence" all make unwelcome reappearances) and they may also feel that more punctuation is necessary in places. All the same, these faults are just as common using traditional methods, and by and large, "you can't see the

joins", as Phil Neal puts it.

There's little doubt that Lea Manor's involvement with TVEI has strengthened its commitment to increased computer use, for teaching as well as for administration. The school is proud of its computerized record system which holds, among other information, admission data to which is added details of school meals, number in place in family, parents' places of work, ethnic group (by order of the local authority) and medical details. The system can collate lists of all descriptions with great speed. Putting it to the test, I asked it to provide a list of first year girls whose medical details might, for instance, be a useful addition to a PE teacher's mark book. It obliged, within seconds.

It is worthwhile noting that the BBC machine, however appropriate it might be in the classroom, has neither the capacity nor the speed to produce this sort of data, so loved by local education offices. Perhaps it's just as well. Lea Manor has an impressive Winchester linked Enet network for its classroom BBC machines, and a talented young "hacker" might just be able to find his way into the administrative database. It also has CDT robotics classes, an electronic school magazine, a computerized library reminder system and is planning to use its 40 odd micros for computer awareness classes throughout the curriculum, having recently banished computer studies examinations, but that's another story.

Headmaster Alan Brown is understandably pleased with the way computer administration has developed at the school, particularly as five years ago the school had only one micro. He's resisting the temptation to take things too far though. It would be tempting to build into the system the capacity to locate one the school's 1300 pupils at the touch of a button. He believes such a luxury would be wasteful use of technology. He's also adamant that pastoral records of pupils will never be stored electronically. Such sensitive information will always be kept in cardboard files, under lock and key in a more traditional data retrieval system - a steel filing cabinet.

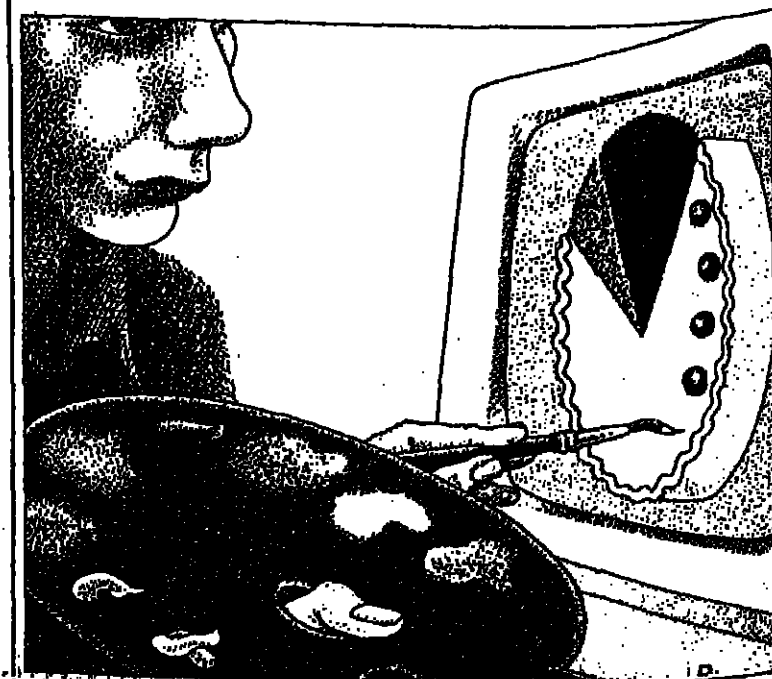
To the aid of the program

John Pilkington on one of the most useful sources of expertise

Devising useful educational programs is a developing art. Now that most teachers have access to a microcomputer, many have taken it upon themselves to learn to program. Many others, however, have only a scant knowledge of BASIC and need help to put their programs together. The local evening class, or teachers' centre is the usual source of expertise, but there is another resource much closer to home that can be just as useful: namely, the pupils.

Many pupils can, by the age of fifteen or sixteen, not only write their own programs at home, but are often adept at breaking into other people's programs to see how they have been written. Such pupils will often be flattered to be asked to write, test and rewrite material for class use. They will enjoy doing it, they will be serving the school community and will be involved in the designing of programs in a way

continued on next page



To the aid

continued that often demands real problem-solving and market research.

Let me illustrate with some examples from real life. The hacker. There is usually one student whose aim in life is to break into the staff files on the school network and try to find out what all the passwords are. Try making that pupil partly responsible for the organizing of the system. When I was at school, the rebellious pupils always made the best prefects as they knew all the tricks from personal experience. In the same way, an experienced hacker may well be able to protect your system better than you can. The security of our school network has increased dramatically since we started talking to our hackers!

Second, your computer literate pupils will be able to design your floppy disks so that you will be presented with a pleasantly coloured screen listing of the programs available on that disk. You can then call up any program by pressing just one key. This makes it easy to standardize instructions for any beginner using the computer. If all the disks are auto-booting, the novice need only know one or two instructions in order to use a program. (eg. "press shift/break" for the BBC micro.)

Third, beautifying the beasts. Many pupils are fascinated by the graphic displays of the many games around and will be able to beautify the screen appearances of the often simple programs one is given by local teachers' centres, say to print a graph or to control a motor. Simple techniques such as using colours, double height letters and even sounds can make a program more "friendly". These are fairly simple techniques, easily done.

Fourth, school administration. Involving pupils in the running of the school community is always a beneficial activity. At the moment, my own school's house point system is being computerized. This has involved two terms' work by a fifth year pupil as part of his computer studies examination coursework. This will enable three terminals (one for each house) on the school network to be used to input the house points gained for that week; the computer then totals the score and prints out which house has won and which pupils are eligible for prizes, thus saving all the addition previously involved.

This particular task has required the pupil to write out his own problem specification in detail; survey the house point system; write the program; test it; assess it by asking for the comments of the people using the program. If this list reads like a statement of aims and objectives from an examination syllabus... that's what I thought! The pupil benefits just as much as the school does.

Finally, perhaps our greatest success has been with the development of a game to help revise French vocabulary. Talking to a friend who teaches French, we started with an idea for a game that could be kept on the network for pupils' use during Computer Club time. It should provide the repetition required for them to learn new words but also be amusing enough for them to enjoy using and not get bored. I handed over to a pupil programmer.

We began with a brief outline but soon got into a deep discussion of what rules the game required, how many players, etc. before the moves could be planned. The thinking through of the rules was in itself a fascinating experience, before the program had even begun to be written. We now intend to write versions for different types of home computer, so that pupils can take copies home from the library to help with their revision.

I feel that we are just beginning to tap a rich resource that has hitherto flowed by undisturbed. If our early experiences are anything to go by, the pupils benefit personally just as much as the school does and, of course, you get the bonus of being able to work as equal partners on a project you are both interested in solving.

What pleases me most is that the two main projects we have attempted have involved the programmers in personal contacts; they have to question pupils and staff in order to sort out how useable the program is. So often one hears the comment that computing is an anti-social activity. This has not been the case in our experience.

John Pilkington is head of faculty of design and technology, St. Charles School, Croydon.

Micros In Project Work: a Teacher Training Pack
MEP National Primary Project

My first thoughts on this extensive pack from MEP were that it tried to do too much at once, included a number of items that were of questionable relevance to its theme, adopted an uncritical attitude to computers and a critical one to everything else and did not consider in sufficient detail the practical implications of its proposals.

Many hours later, I think that these points can still be substantiated, but that there are some parts of the pack that will stand up to rigorous examination and others which could prove to be very valuable provided they are not over-used.

The pack comprises a substantial booklet entitled *Topic Work in Our Schools*, produced by Brighton Polytechnic, *Tutor Guidelines* for an in-service course of up to thirteen sessions, a tape-slide sequence, two reviews reprinted from *The TES*, and three disks containing software taken from a list of well over three hundred recommendations. With the exception of "drill and practice" programs, these include almost every conceivable application of software to the primary curriculum. Wordprocessing, teletext emulation, adventure fantasies and a program which invites children to write stories with pictures are listed

alongside the archaeological simulations of Ian Whittington and Barry Holmes, programs dealing with maps, skills and turtle graphics.

The range of issues raised by this work is immense, and it is very difficult to do justice to so much in a normal in-service course. The *Tutor Guidelines* are in fact based on a three-day residential course at a college, during which work went on well into the evenings. The concentration of equipment, the dynamics of what is normally a selected and able group and the lack of distraction on this type of course often create an atmosphere in which a great deal can be achieved. As a model for a less specialized and intensive course at a teacher's centre it is almost certainly overloaded. A course could easily be run on the basis of just one or two of these sessions, although this would require more detailed information than the outline which is in most

cases provided, particularly when teachers are presented with major simulations which take up a lot of curriculum time. There is admittedly a reference to another MEP pack devoted to the Glim simulation based on the *Mary Rose*, but as many of the teaching materials in this could only be used on courses as examples of bad practice this advice may create more problems than it solves.

Story (H&H Software), a program intended to allow children "of five and upwards" to write stories on the screen and illustrate them with graphics, provoked more serious objections as it seemed to have no connection with project work at all. I could find no attempt in the pack to consider how project work might be modified to meet the needs of such young children, and *Story*, as its name suggests, offers only one format for writing. Its inclusion is particularly irksome when more

valuable wordprocessing software - such as Mike Matson's *Telebook* (4mat) - has been omitted.

The pack's treatment of teletext raises more complex but equally important questions. The teletext emulator, *Mikefax*, which is included, does its work well. It is compatible with Econet, will download "real" teletext pages through a converter and features an attractive drawing facility using the computer's arrow keys. Moreover, the reprinted *TES* review by Anita Straker and Christine Robson (Computer Pages, November 9, 1984) provides a useful basis for comparison with most of the competition apart from *Schoolfax* (Computer Department, New College, Queen's Drive, Wilts) which has appeared more recently.

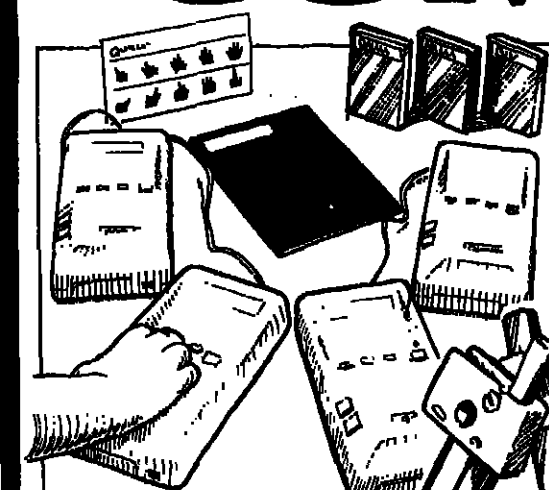
The uncritical attitude which disturbed me was not, therefore, related not to the selection of the program, but to the presentation of the teletext format itself, particularly in Pamela Fiddy's article, *Present Projects*, *Ms Fiddy* does not intend her sub-headings, "The Vanishing Newspaper?", "The Vanishing Post Office?", and "The Vanishing Library?" to be taken literally, but she concentrates only on the advantages of teletext and only seriously considers as drawbacks the problems caused to those who "miss out" on it - the "information-poor".

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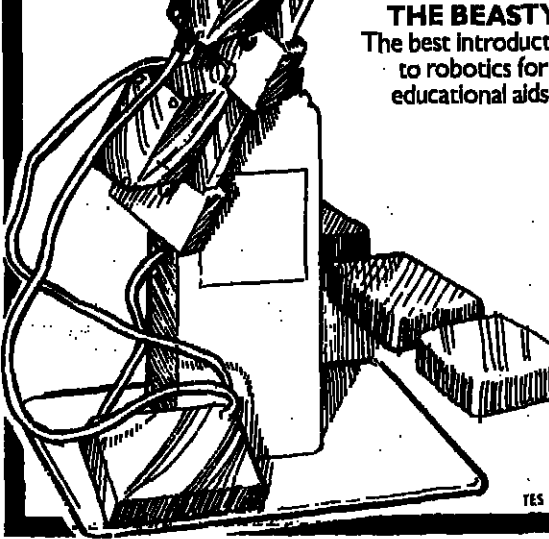
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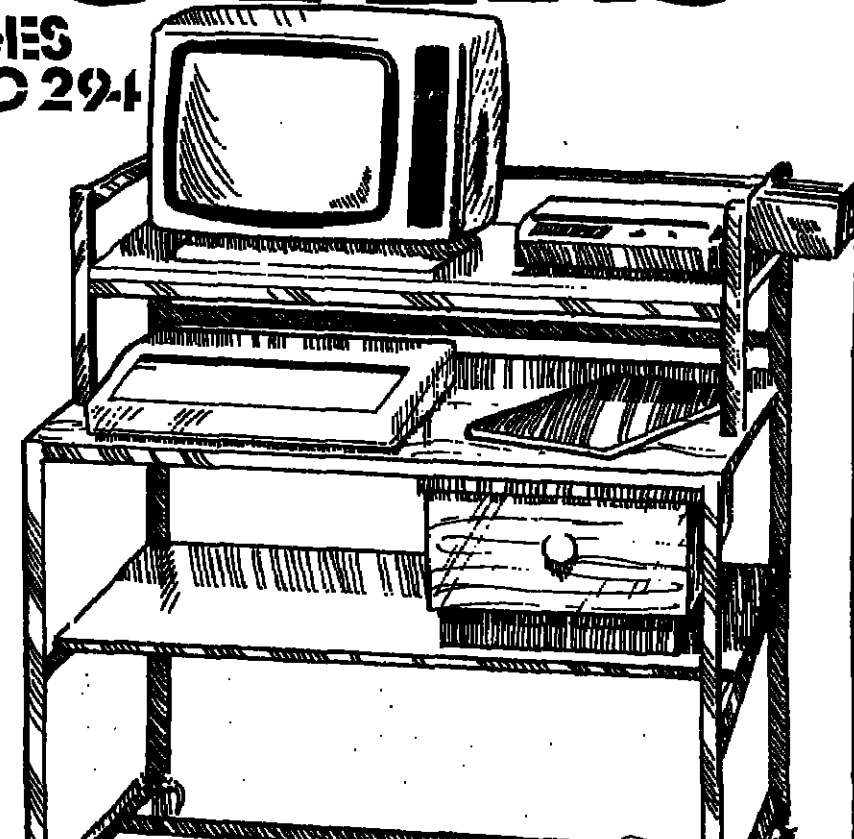
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Film and Video Group, British Telecom Centre, Floor A2, 81 Newgate Street, London EC1.

The opening scene of the new video Communications neatly sums up the ironies of its subject matter - an "expert" in communications technology tries to explain how it works and no

one can understand him. Bedevilled by a confusion of computer jargon and telecomm buzz words, communications technology is a particularly difficult topic to understand and unfortunately there are few videos around to alleviate the problem, most on offer being either over-specialized or semi-promotional and simplistic.

But the coming of Communications, a 60 minute documentary produced by TV Choice Video brings welcome and down-to-earth relief into this resources desert.

Advances in the linking of computer to computer, and the way in which we can use both the telephone and the telephone network is a subject of great importance to all courses with an element of information technology. The big danger is that educational videos tackling this area will be too

abstract, too optimistic or too technical.

Communications avoids this danger by its use of hard case study material. These case studies demonstrate in detail how communications technology is changing the work and procedures of organizations all over Britain, from local government and large corporations to insurance brokers and general practitioners. It explores key developments in ways of channelling voice and computer data, such as the digital PABX, the local area network and the value added network, and - most importantly - shows them being used in the real world. Of the most relevant titles BT has on offer, Star Service is little more than an extended advertisement for the new domestic telephone services which digital technology makes possible, and the success they bring to the life of a jeweller. A Change Of Plan takes a similar, though more convincing approach, to a range of services such as radio-paging and Prestel being used by an imaginary engineering company. Both productions are cursed by smug young actors, affluent, unrealistic scenarios and distracting, uninteresting storylines which exist simply to hang the products on.

For a much more revealing insight into how advances in the technology will affect people's jobs, we have to turn to Using Office Automation, a remarkable documentary which combines demonstrations of how different bits of the technology works with warts-and-all interviews with the people who have to manage and operate the machines.

Using Office Automation doesn't confine itself to the communications sector, but investigates with considerable clarity both the benefits and the problems information technology brings to the people who have to use it.

On the more technical side, BT has brought out Pulse Code Modulation, which is supposedly aimed at fifth and sixth form physics/electronics students. This very short - 9 1/2 minute - production deals with a technology at the heart of the communications revolution. But it goes badly astray by making elementary mistakes of presentation. It baffles and bores the viewer with the dry bones of the topic to begin with and leaves to the end the most interesting details. Packet Switchstream is a more successful attempt to crack a portion of the communications net. It tries to explain the public data network which channels computer data around the country. Using a combination of stills, animation and live action the video does actually provide a reasonable model of how the technology works - though this is badly marred by its overall promotional flavour. And both this production and Pulse Code Modulation rely far too heavily on graphics and captions which suffer from fuzziness when viewed in VHS format - a significant consideration since graphics occupy a relatively large proportion of their total running time.

continued from previous page

Extension College in Cambridge and organised by Lis Craig, Industrial Liaison Officer at SCET. In two separate one-day events, one for educators, the next for managers and trainers, case studies illustrated the use of videodiscs both in television and VHD format. It was pleasing to note that description of plans and pious hopes were fewer, and reports of work done and extracts from discs more frequent.

An unusual application was linked to an interactive exhibit on public display at the nearby Kelvingrove Art Galleries. Bill Landale of Christian Heritage Scotland demonstrated their VHD videodisc portraying the lives of notable Scottish Christians like Eric Liddell and Geoff Shaw. Their intention is to demonstrate that Christianity is relevant today and to emphasize that "heritage" includes people, not just buildings. Members of the public are expected to select which world problem they would most like to abolish. This choice guides them to a biographical sketch of a relevant Christian. The contrast between this explicitly evangelist material and the other VHD project could hardly have been greater. Bert Boyd of the British Steel Corporation demonstrated their new videodisc for operator training on the Pickle Line at Gartcosh. Superb video

sequences of correct procedures for handling steel coils (produced by BSC's own video unit in Scunthorpe) were combined with straightforward multiple-choice questioning (programmed in Microsoft BASIC on an Apple). The goal was clear: to improve quality and efficiency of the end-product.

This was BSC's third interactive video project, and Bert Boyd described its production with refreshing honesty. Few are willing to discuss their mistakes and costs so openly, and even fewer have produced their own videodiscs without outside help. Having rejected an outside consultant's estimate of £40,000 to £60,000 to produce the whole disc for them, BSC opted to go it alone. They estimate that the whole operation cost £10,000 to £15,000. If increased efficiency saves even a single steel coil from the scrap-heap, it will pay for itself.

Schools may regret the lack of an equally clear cost-justification for IV! The BSC example demonstrates that IV can be cost-effective on a one-off basis. Apparently each steel works is unique, so this training material would not be applicable to any other steel works, either in Britain or abroad. Given that schools are alleged to strive towards common goals if not a common curriculum, shouldn't it be possible to make IV cost-effective in education?

Deaf aid

Jacquetta Megarry on a school which uses interactive video with deaf children

For the *Ivor the Engine* cartoons help deaf children to develop reading skills. By consistent colour coding and systematic use of summaries, recapitulation and regular questioning he hopes to develop their reading comprehension. Reinforcement is provided not so much by the multi-coloured CONGRATULATIONS message as by the sense of progress and the strong incentive to view the next video sequence.

Children with normal hearing can take in spoken commentary three or four times faster than they can read subtitles. Unlike conventional subtitles, Chris Jones has not relied on ruthless editing to keep up with the action. Instead, he has retained the full richness of language; the action is simply frozen for as long as the child needs in order to read all the words. Full sub-titling may sound simple, but it is immensely time-consuming. The BBC professionals take around 30

minutes to process a 30-minute programme. Chris Jones thought it took him about the same.

A classic problem in teaching the deaf is how to convey the passage of time and relate it to verb tenses. Once again, cartoon material provided the stimulus backed up by clear visual conventions. The future tense was shown by a blank screen implying the action is about to start; the present tense by the video sequence in action and the past tense by freezing the last frame of the action. In each case the teletext caption changed to suit the tense, with appropriate colour coding.

Using a dictionary is a chore. For the profoundly deaf, short of vocabulary-enriching experiences, it is both a more persistent nuisance and more vital than for those with normal hearing. Chris Jones' new videodisc is an interactive video dictionary. Each "page" shows four lines of text from the Link-up

series. To look up any word you just move a large yellow cursor along to underline it - you don't even have to know your alphabet! If the word is a noun, you see a suitable picture. If it is a verb, the appropriate sign is shown.

Mr Jones' achievement is impressive not only in itself. It also suggests a methodology which can be applied elsewhere - to the teaching of second languages and foreign languages, for example. And although videodiscs offer immense scope with their independent sound tracks, the work at Donaldson's is an important reminder of how much can be done with vision alone.

Other presentations confirmed how much the field has moved on since the similar conference mounted at Downhill last November, which was also run jointly with the National

Project programme

If "getting facts fast" is the object of using a library, then teletext has a clear advantage over some types of books and periodicals, but there is more to non-fiction than the provision or extraction of information and there should have been greater emphasis in this section on the things that books provide and teletext does not: among much else, better illustrations, extended argument and personal voice.

Similar restrictions apply when writing teletext pages. Ms Fiddy suggests that children should look for ways to "explain clearly what is meant using short simple sentences which will look good on the screen". This in itself is a useful discipline, but the problem with teletext is that it does not lend itself to much else.

Its restricted format is by no means an unmitigated blessing, and the pack should at some point have contained an analysis of limitations of teletext as well as its potential. Teletext, which does not present itself as a teletext emulator but as a vehicle for children's writing, sidesteps many of these problems by its "unique" (Anita Straker and Christine Robson) provision of simple wordprocessing alongside electronic storage of pages.

Teletext also raises the question of the "information society" and its potential impact on schools. Ms Fiddy refers to "a world increasingly entwined by networks of computer-communication systems", and is concerned at restricted access to them. Unfortunately, however, and in common with many others who have identified information as the key point in education and society, she does not relate information to the development of understanding.

Understanding is not synonymous with the possession or efficient handling of information because it often involves the consideration of factors beyond the scope of a given source.

Alistair Ross' analysis of the effect of information retrieval on the quality of children's thinking in local studies provides an approach to this question which is immediately more satisfactory, as it considers assembled data as a starting point for conceptual development rather than an end-product. He argues that the concentration of data enables children to detect patterns and correlations, to begin to make generalizations and to draw conclusions on the basis of evidence.

The third disk contains a program for converting files from *Quest* to *Facile* and vice-versa, sample files for information retrieval sessions on the in-service course, and *Branch*, which enables children to construct binary trees. This program is supported by an article by Antony Paddle, in which he argues that binary trees, in which an object is defined in terms of the presence or absence of a series of characteristics, can help children to make more disciplined use of observation. The limitations and even the rigidity of the format are obvious, but Mr Paddle suggests that these constraints "force children to think very carefully about what they want to find out and how to go about it". Binary trees can easily degenerate into a series of riddles unless there is a real reason for using them, but if they are used well then the thinking involved can provide an introduction to logic.

Topic Work in our Schools is unusual in the context of this pack as it is much less concerned with computers than with the development of a coherent curriculum for children in the junior and middle years. It begins with a definition of topic work as: "Experiences and study centred around a common theme, progressing in a structured way unconfined by subject boundaries, and related to the skills and conceptual growth of particular groups of children." and proceeds to offer a pattern of analysis which will give teachers sufficient control over their work to turn this into a programme. (This leads inevitably to taxonomy, some of which is both wordy and highly debatable.)

It would be too easy to suggest that a similar approach could usefully have been adopted throughout the pack, as the pace of development obliges the MIP to promote innovation on a great many fronts at the same time. It may find, however, now that basic information is more readily available within i.e.s.s. that smaller packs, offering very detailed information on specific aspects of its work, are more effective than omnibus editions.

Those who have been deaf from birth can seldom speak intelligibly. The combined handicap is enough to prevent many children from developing a normal vocabulary and retards their educational progress. Chris Jones not only overcame these obstacles to qualify as a psychologist, but also went on to conquer the technical and financial difficulties surrounding interactive video (IV) that have discouraged so many people in education from embarking on it. The pupils at Donaldson's School for the Deaf in Edinburgh will be the first in Scotland to benefit from interactive video as a result of this pioneering achievement.

Chris Jones' sign language presentation at the Scottish Council for Educational Technology (SCET) in April eloquently underlined both the immensity of the handicap and the appropriateness of IV as a method for combating it. His early work applies existing videodisc material to quite different purposes from what its designers originally intended. His equipment is (by IV standards) simple: a standard Philips industrial laserdisc player (with teletext) controlled by a standard BBC Micro programmed in BASIC, and a standard teletext television for display.

By creative use of teletext overlays, Mr Jones has transformed *Children's Favourites* into a powerful and motivating educational tool. His subtitles

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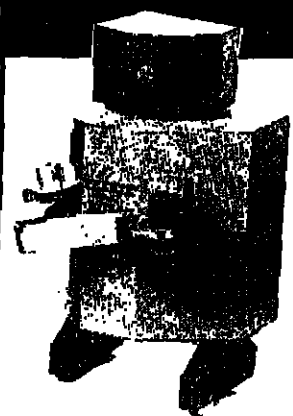
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Business matters

Ben Kelsey surveys the application of IT to business education
and finds the secondary sector lacking

Several factors have contributed to what has been a period of rapid change in the application of Information Technology to business education. First and foremost has been the now familiar Information Technology revolution in the business sector of the economy, which has affected almost every business regardless of type or size and therefore almost every occupation.

How has this affected business education? The lapse in time between developments in the business sector and their subsequent application to business education varies with the different phases. Higher, Further and Secondary schools in the time tends to be at least at the level of the Business Schools and Polytechnics, catering for the graduate and post-graduate students of Business and Management, since staff in these institutions generally keep in close touch with developments in information technology and business. Probably the most important factor is that staff in these institutions design and implement their own courses and are thus able to modify them as they perceive the changing needs of business.

Courses at this level follow the traditions of the American Business Schools, being strongly student-centred and largely assignment-based. This mode of learning permits an easy use of all aspects of information technology within the framework of the assignment structure. A further facility is the relatively liberal funding of these institutions (in contrast to the paucity of funds available for the secondary sector).

Varied technology

The range of information technology equipment found in the Business Schools and Polytechnics is very varied, but it generally includes multi-frames, minis and micros and a wide range of peripherals and the attendant software programmes. An extended use is made of the telecommunications systems, involving national and international networks and data banks, and of digital data communications.

The software used covers a wide range of business activities, with word and data processing, the use of automated financial control systems, and resource-planning programs, which cover forecasting and simulations. Increasingly, software houses are producing integrated packages costing around £500 which include various processing activities, a spreadsheet, a database, business graphics, and sometimes a communications program in one package. Examples of "inte-

grated" packages are, *Electric Desk*, *Financial Array*, *Symphony*, and *Connect MBA*. Where departments have decided to remain with the single program approach, programs most used are *Wordstar*, *dBase II*, *Vicade* or *Multiplan*.

There is a continuous process of refinement of software for specific needs, ranging, for example, from integrated packages for the banking industry, to highly specialized programs for medical and legal practices etc. Most of the software available tends to be general in application but, unlike, in Further Education and Secondary schools it is *business* software and never *educational* software.

In colleges of Further and Higher Education, business students follow courses which are largely designed and validated by examination boards, only rarely are courses designed by the colleges themselves and validated by the boards, as in the case of the Higher National level of the Business and Technician Council (BTEC) and the Council for National Academic Awards (CNAA) degree courses. Here, the responsibility for the development of information technology in their courses lies with the course team and its implementation procedures. But sadly, for most colleges (as for most school courses) curriculum development embracing information technology starts with the course design of the Examination Boards. Some of these serving the FE phase are BTEC, The Royal Society of Arts (RSA), The London Chamber of Commerce (LCC) and the Pitman's Institute. All of these offer a range of business courses which, to varying degrees, have recognized the importance of information technology.

An example of a forward looking examination board is BTEC, which came late into the business education field, with its inception in 1974. It has quickly moved into the lead in curriculum innovation in the use of information technology.

Information technology is designated as a "Central Theme" at BTEC (Higher, National and General levels, which means that IT forms a major integrative factor, permeating all aspects of these courses.

The depth of study varies with each BTEC level, but on completion of their course of study it is assumed that all students should be familiar with the role which advanced telecommunications and information technology play in business; have a broad knowledge and understanding of methods of communications in business and information handling systems; be given familiarity with modern electronic information processing systems; be familiar with microprocessor applications; develop specific skills in oral communications.

Associated with these skills are proof reading and editing (particularly in association with wordprocessing). This latter is given greater emphasis where students take the BTEC Secretarial Option.

Opportunities for further specialization at BTEC General, National and Higher levels exist in the range of option modules, eg at General level "Introduction to Information Processing". Further options exist at National level in the form of "People, Technology and Work" and "Information Processing" I and II.

BTEC also offers a range of post-experience courses of which eight relate to information technology.

Looking at the development, implementation and revision of BTEC courses as an adviser, I am impressed by the way the Council has kept up the pressure for innovation and change both on what is being taught in Business Education, and, even more importantly, on the process of learning. The old didactic style of teaching, which still dominates in the secondary schools, owing to the dead hand of the OCE/CSE Boards, has been replaced by a range of learning styles, which lend themselves to an easier application of information technology to the learning process.

The other main business education board used by the FE sector is the Royal Society of Arts. The RSA is the

oldest of the Boards in this field and has undergone a considerable review and revision of its many business courses in the past three years. Most of these courses tend to specialize in the single skill approach, though it has recently introduced a range of integrated and modular courses in business education.

In 1979 the RSA set up a national working party to consider "The Educational and Training Implications of Modern Technological Developments as They Affect Office and Administration". This working party's work formed the starting point for a number of IT courses, which the RSA have subsequently developed. These range from computer literacy and information technology through wordprocessing to a joint development with the Microelectronics in Education Programme (MEP), to equip teachers with the qualifications in information technology.

The RSA have attempted to develop single skill courses relevant to the job market and as such the Wordprocessing Stage I course is probably the best known. This course is soon to be followed in the summer of 1985 by the Wordprocessing Stage II course.

The Society is also in the process of developing a modular IT and in particular is working on the adoption of IT elements within many business education courses. These developments are not to be found in the courses provided by the OCE/CSE Boards used by the secondary schools. As with many other subject areas the Boards have retarded curriculum development in Business Education and in particular the application of IT to that area.

Courses offered cover typing, office practice and commerce, with the occasional economics in some schools. Like many school lunches this "curriculum menu" is unappetising and unbalanced. Most of the courses are out-of-date.

Only occasionally, through the agency of an innovative Mode 3 course, does IT figure prominently in school business education. Such a course is the Hampshire Business and Information Studies Course, a broad skills pre-vocational foundation course with the two themes of "Business" and "Information" studies.

These themes are integrated together through a carefully designed assignment programme, which involves a wide use of educational software programs, such as *Edword*, *Infum*, *Payship* and *Stockcheck*, the latter a product of two of the staff at Crickeide College, Andover. The consortia of 29 schools in Hampshire, Wicks, Berks, and Dorset will be

20 authorities

joined this autumn by schools from another 20 authorities, which will give the course a truly national flavour. The Department of Trade and Industry has made a grant of up to £1,500 to each school starting the course in September 1985.

One of the lessons learnt is that IT is not a "bolt on" component of the curriculum. It must be carefully designed and integrated into the programme of work at every level, and is best where the teacher or the team is able to design and implement their own curriculum.

A second is that support equipment should also be carefully designed to match the particular needs of the course design. Schemes like the micros in schools project where in effect equipment in search of a curriculum resource allocation.

Third, there is a need for a continual evaluation of software to match each particular phase of development as requirement and software change. Finally, the importance of IT to business education is not simply as a vehicle for learning enhancement, but it is seminal to the subject and thus business education is more closely linked to IT than most other areas of the curriculum.

Ben Kelsey is County Adviser, Business and Economic Studies, Hampshire.



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The great seducer

David Tawney asks if the computer deserves all the attention it gets in the science laboratory

Additions and diseases are to be shunned whereas it is certainly not my theme that computers should be. It is, rather, that you shouldn't let your computer master you and ruin what could be a happy and fruitful relationship. In other words, seduce you. For the sake of brevity, I'm going to illustrate this dangerous tendency of

the computer through its behaviour in only one field: the school science laboratory. I'm not going to talk about the computer as educator (Computer Assisted Learning), an amant of office manager, only in its use for gathering data from apparatus and, in some instances, for controlling experiments. This isn't to say that the first roles are unimportant or free from the tendency to seduce. I'm choosing for my illustration the field of data capture from laboratory apparatus as it is one I am able to observe in my job.

People enter a relationship with several motives and within it act out several parts: the computer is no different. One motive for the computer to act as a data capture and experiment controller in the school laboratory is totally honourable. It is to establish its credentials, to show it has these talents so much valued in research and industry. This machine image of performing a vital function outside world is well deserved and well worth presenting to our pupils. A failure to do so would be to restrict their computer awareness and to diminish their science.

However, this image is not difficult to project and the computer, to justify its place on the demonstration bench, feels obliged to adopt more pedagogic roles. It offers to be a snapshotter, taking readings from instruments at a speed too high for human observation and playing them back at a manageable rate; or to record data for long periods of time, over night and day, the ever-vigilant nightwatchman, glad to be of service for long-term biological investigations; or to be the all-

patient observer, recording data too numerous for human patience and the limitations and distractions of the 40 minute lesson.

All very plausible and not without some value but it has to be said that school science shows few signs of these needs. The computer claims to meet experiments have been adapted to fit school limitations and although accuracy may have been lost and scope reduced, they have, generally, become more comprehensible and manageable in the process.

Not finding too much scope here, the computer adopts other roles. It offers to manipulate data which certainly makes sense because it is very good at that. Data will be tabulated, added, subtracted, multiplied, divided, logged and plotted on the TV screen and say binary digits. The computer also offers to present data clearly. No longer will pupils be confused by small, half-visible incomprehensible dials and by bleglyphics on the blackboard and lose the wood of the purpose of the experiment in the trees of techniques, corrections and calculations. The number and units will appear big, bright and bold on the TV screen and carefully designed graphics will show how they are obtained. Big Brother is telling you! Not only can the computer, in this way, act as showman but also as discreet laboratory technician, prompting the next adjustment to the apparatus, point out that something's wrong or just carrying on recording while the teacher teaches. This unlikely combination of showman and technician is certainly useful and is claimed by some

continued on next page

The great seducer

enthusiasts to give the computer the power to liberate the experiment from the constraints of the 40 minute period and the teacher from having to manage simultaneously two groups of unpredictable, an assembly of apparatus and a class of pupils. It gives the pupils more opportunity to ask "What, if...?" questions and receive the answer through demonstration.

However, the computer does not stop here. Its adaptability is such that, it is claimed, it can take on, single-handed, the roles of many expensive pieces of apparatus which spend most of the year resting on the store room shelf. The computer, as a one-man repository company will, unfortunately appeal to many in these rate-cutting times, from Sir Keith Joseph upwards.

As always, claims to produce economics should set the alarm bells ringing. And they should be rung for other reasons as well. For a start, a microcomputer does not appear on the demonstration bench alone or just with the laboratory equipment which would have been used for the experiment without it. It appears surrounded by a retinue of interface box, disk drive, power supply, probe and, possibly, amplifier. The hard-pressed teacher may have to book his star, the computer, well in advance with its agent, assemble a considerable cast and rehearse it, usually without the benefit of an expert stage manager. It all takes time and too often illustrates the well-known thermodynamic principle that the chance of something going wrong increases with the number of ways of going wrong there are. This, in turn, depends on the number of boxes to be connected up. As does, of course, the difficulty of debugging.

As well as the complexity of its retinue making the computer accident-prone, likely to trip over its own peripherals as it were, it can also make it confusing to the young, who, while understanding a pH meter with attendant probe, say, can easily be muddled by all the other hangers-on. Further, despite the clear identity a well-designed display can give to a particular role the computer is playing, this retinue of boxes looks much the same every time. A mercury thermometer is easy to recognize but a temperature probe is anonymous, looking very like the probes used for measuring all sorts of other things.

Having assembled and rehearsed the vast cast, a teacher may find the little demonstration, intended to make cogently the particular point for which the class had been so carefully prepared, rather an anticlimax: "Let's not just measure the acceleration due to gravity once; but several times and examine the errors inherent in the arrangement", thereby distracting from a simple demonstration of uniform acceleration. There are other losses, perhaps loss of understanding and a loss of freshness when the extended demonstration is met again later at the appropriate time.

An actor is limited by the scripts available and at present the computer school badly served. Its undoubted capacity to store useful data capture roles will be exploitable only as software becomes available and at a quality high enough to overcome the problems mentioned. Software is difficult and expensive to produce and, unfortunately, by the time it is ready, the equipment it is intended to support is too often obsolete. I hope that eventually programs will become quicker to produce and that attempts will be made to establish criteria for its development in this context. At the moment, with no criteria and few good examples, software development appears a very ad hoc process.

Readers who have persevered this far may feel that I am against the use of computers for data capture in school laboratories. This is not so; just as I am convinced that a computer can obscure the purpose of an experiment, so I believe that once its seductive tendencies are rebuffed and the problems it presents are appreciated and mastered, it will become an important aid. We need to leave the phase in which the challenge is to use the computer to capture data. The challenge should now be to use computer data capture to enhance learning.

David Tawney is the Director of the CLEAPSE School Science Service, Brunel University, Uxbridge; the views expressed are his own.

Complementary definitions

Ian Malley argues that the library has a significant educational and promotional role in Information Technology

Define Information Technology (IT). Answer: "The technology used to handle information". Now define a library. Answer: "The place where information is handled". There are grander definitions for both of course, but few that express their essential characteristics.

The emphasis that is placed on technology in IT, and the traditional (but inaccurate) image of libraries should not be allowed to obscure the fact that both IT and libraries are primarily concerned with the handling of information. With such a close association it seems logical to suggest that IT can assist the school library in the more efficient handling of information, and that in turn the school library can help to develop the use and awareness of IT amongst school pupils.

No school librarian would dispute this argument, but schoolteachers and I.e.s.s. might need convincing that the library has a significant educational and promotional role in IT. School libraries are increasingly using IT in their operations and services, and in so doing they are well aware of their educational role. What they have not done is to demonstrate their case sufficiently strongly - although it should be obvious that a school library is nothing if it is not geared towards the education of its users.

But first of all let us be clear about the present scope of IT in schools. It is not wide, but it should be more than microcomputers. Another definition of IT is "The acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by means of computers and telecommunications".

Telecommunications includes our old friends radio and television, and the telephone of course. The interaction and convergence between all these with the computer brings us teletext, videodata systems, interactive video, telesoftware, and many more. So for school librarians to concentrate mainly on microcomputers is to limit their IT influence at a time when considerable developments are being made in the field of telecommunications. Those school libraries using teletext and Prestel are aware of the need to diversify.

Yet it is the microcomputer that still dominates IT in schools. The Department of Trade and Industry's micros in school scheme was very influential in this, and the initial seeding of schools with microcomputers has been nurtured by the Microelectronics Education Programme (MEP), which until recently largely focused on microcomputers. Many libraries have taken advantage of these initiatives, and succeeded in bringing the microcomputer to the library, often in the face of considerable opposition from the "numerate" departments of mathematics and computer studies.

As the value of the microcomputer to literacy has become more apparent and the "literate" departments like history, geography, social studies, English, etc. have claimed their share of the microcomputer, the library has consolidated its position, by proclaiming its neutrality, arguing that in the library the microcomputer is accessible to all classes.

But in taking this stance the library does itself an injustice: and even if the library argues for a microcomputer simply on the basis that it will improve its "housekeeping" procedures, or that it is a necessary component of a modern information service, this is to ignore or at least underplay its potentially powerful role.

The crucial point is that no other department in school can demonstrate as many examples of IT in action as the school library. There is an opportunity for pupils to use IT in the library not only as a receiver and retriever of information for class use, but more valuable (particularly for long-term educational needs) as an organiser and evaluator of information. It is worth emphasising that developing a proper awareness of IT cannot be effectively done unless pupils become involved in the process of handling and managing information transmitted through IT.

But what are some of these applications of IT in the school library, and how can they stimulate the pupil to learn about IT?

First, there are the many ways of accessing information beyond the school library. On-line access to commercial databases is generally impractical because of their cost and inappropriateness to schools; yet some organizations know that there is an opportunity here if the product is correctly pitched. Filling some of the gaps in the meantime are teletext and particularly Prestel which in January added the Council for Educational Technology's Prestel Education Service to its information pages. Prestel and teletext are valuable assets not only for the information they carry, but because CAL programs for individualized learning and other software can be downloaded and stored for future use.

As the natural resource centre for all learning materials the library is obviously the location for such services, and, as the scene of such operations, the library provides a workshop

for illustrating program and information retrieval, as well as information retrieval. And with in-house and local area Prestel emerging, information presentation through the design and layout of viewdata pages can be taught.

Second, there is a range of library housekeeping operations which can be conveniently dealt with by microcomputer. Using one of a number of software packages, systems for library cataloguing, circulation control, stock accessioning and similar procedures necessary for the efficient organization of a school library, can be developed without excessive cost. Since few school libraries are so well staffed as to decline the help of interested pupils in the day-to-day running of the library, this is a valuable opportunity for some pupils to learn the skills of managing information through the processes of library stock management.

Third, and as a development of the above applications, there is the creation of in-house databases. The number of external databases useful to schools is small, nor is the stock of a

school library normally catalogued and indexed in enough detail to provide access to many narrow topics that may be the subject of school project work, for example.

The solution is for schools to develop their own, internal databases, using such software packages as *Facfile*, *Query*, *Quest*, and *SIR*. Many schools are doing just this, establishing databases on subjects like environmental studies, history, international relations, and biology. Compilation of such databases can be done effectively only in the library because of the range of formats of source materials (books, magazines, audiovisual material, software, etc.).

The practice of database creation is popular in schools, not simply because it encourages better use of limited resources, but because the compilation process demands skills of the pupils that cannot easily be developed elsewhere in the curriculum. Skills like information selection, evaluation, organization and presentation are purposefully acquired as the database

continued on next page

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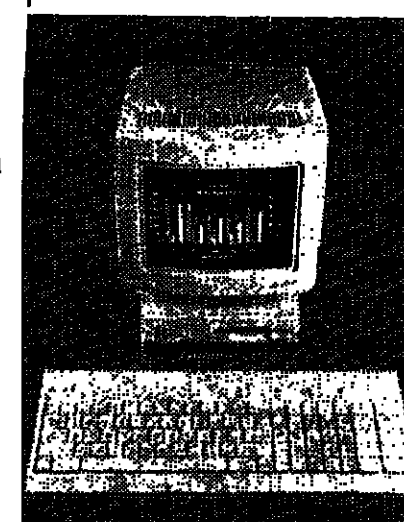
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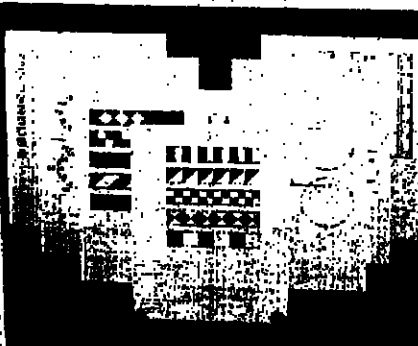
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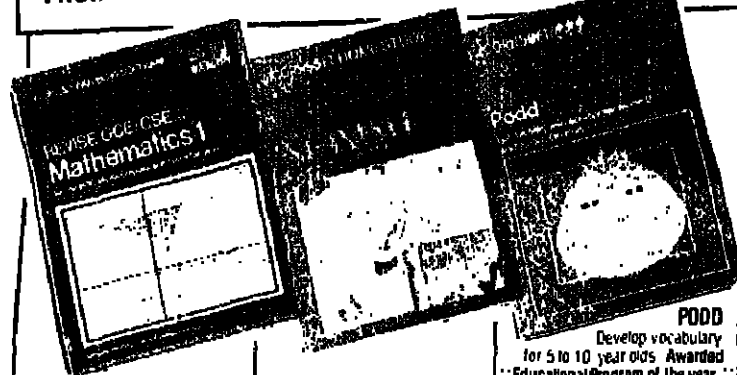
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EXTRA

Segmentation

Jacquetta Megarry on new possibilities offered by a wordprocessing system

Wordwise Plus is much more than a speeded-up version of Wordwise, the popular wordprocessor ROM for the BBC Micro. The new system's ability to partition the micro's memory into so-called segments, and its potential for running programs stored in those segments, both open up quite new educational possibilities in various subject areas.

The ideas below have been culled from a range of teachers and advisers who are using Wordwise Plus in classrooms.

One primary school has three BBCs, with Wordwise Plus. Using all ten segments, 30 pupils can take turns to enter and edit their stories without tedious saving and reloading each time the next pupil takes over. Pupils are responsible for remembering their own segment number and typing their names at the beginning of the story.

A secondary science teacher suggested that this approach would allow a single micro to help a whole class to record their laboratory experiments. Each group of pupils could type in their results and notes on the spot, returning afterwards to write a report on them and tidy up the English.

In any subject where pupils compose their own written work, segments are useful to store working notes and reminders. In precis-writing and editing, the unedited text can be stored in segment 0, with the pupils' first attempt at a summary in segment 1. This is copied into segment 2 for further editing and so on, storing successive drafts in each segment. This allows easy comparison between the versions, with effortless word count at each stage.

A profoundly deaf teacher of hearing-impaired pupils is keen to write then work in the main text area while he circulates among them. When his

wants to make general comments, he joins them down in segment 0 for the pupil to read when ready. Minor criticisms and reminders like "check your tenses" or "try to avoid using 'lovely' so often" are put in segment 1 so that the pupil will not be distracted by them until after the main ideas have been expressed.

A primary teacher who is fond of the Chase procedure uses a seven-line program in a segment. This replaces every tenth word in a piece of text by the @ symbol. She can easily change the deletion frequency, and work on any text whether written by herself or by the pupils. The pupils have lively discussions about different candidates for replacing the deleted words. The original text is stored in segment 9 for comparison, but often the group's final product seems better than the original.

A teacher of history and economics wrote a five-line program to store in a segment that searches the main text for any keyword. Pupils use the program to scan through information sheets and miniature databases already stored on disk by the teacher using Wordwise.

Segments can also be used to store the in-between results of search and replace transformations of text. A modern languages teacher uses this as a novel method in teaching and testing written translation skills. A piece of French text is stored as main text, with a complete English translation in segment 9. Segments 0 to 8 contain successive transformations of the text which the teacher has previously prepared by searching for key words and replacing them by their translated equivalents (using menu option 5).

Jacquetta Megarry is a freelance journalist who wrote the "Introduction" booklet supplied with Wordwise Plus and Computer Concepts mini-computer.

Box of puzzles

The adventure is linear up to the "Town of Treasures" which can be explored in any order. The puzzles are all the same and the teacher has no control over the difficulty or content.

Apart from a few minor niggles, the programs are easy to use. The software is colourful, robust, animated and well-presented - I particularly liked the sorcerer's effect - but I missed being allowed to save a game half-way.

To help the teacher, the user's booklet contains a "flying visit" which has the answers. (Very welcome when you only have an evening to look at the package and are not involving adventure programs for pleasure.) The booklet is clear and on the whole helpful. However, a teacher having genuine difficulty would, in my view, be infuriated by the nudge-nudge, wink-wink in-joke approach of the superficially helpful Problem Page. This is particularly true of printer problems which, for inexperienced users, could easily happen and should have been trapped in the software.

The activities in the "Box of Ideas" booklet are comprehensive and viable. They cover a wide range from Science to PE, and will help teachers plan their work. The reading booklet which comes with the package is nicely illustrated in a style which could be imitated by the children for display. I did, however, find the dialogue for the dragon play excruciating and quite out of style with the rest of the material.

Maths has established a reputation for creating classroom resources but this is in its tradition. It is a software package having lots of potential for Topic Work and contains a good deal of helpful material for teachers to use.

Dragon World is an adventure which sets up a world for the children to explore. It is a sort of computerized box of puzzles which the children unravel to find treasures. (The four associated little programs give practice in certain of the problems encountered: mazes and riddles for example.)

The next problem is often discovering what the program does. A book is an unhelpful device in this case because it is not always clear what a program will do without a computer, and yet a book always carries a brief description of what it is about, either on the front cover or just inside. Publishers of software, and especially educational software, often include no such information on the plastic covers of their products. To find out what is in store for them users have to venture into the booklets inside the package.

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It is true that within schools many teachers will have tried out the programs and be familiar with them, but at the library of programs grows, they will often have to refresh their memory, and this is where the art of the blurb writer comes in: succinct, eye-catching and, OK, a little hype what's needed, after all the publisher can't be blamed for wanting to sell the product.

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"Scavenger Hunt" can be used by up to four players. The aim is to find five objects each, which are scattered around the countryside. This must be done in the shortest time possible, without incurring too many penalties. The winner is the player who has the lowest score.

This program consolidates map reading and compass direction techniques which have already been taught by the teacher. It is necessary to give the child one of the surrounding countryside. The object of the exercise is to run a profitable haulage company.

The students need to watch their fuel, their money and plan their runs to be as economical as possible. They are told which supplier stocks various building materials and they are told where the building sites are. It is not easy to move around, however, since hazards such as punctures can occur, which cause expense and time. Four teenagers spent all evening at this program.

Cathy Conlin

"Raft-Away-River" is an adventure simulation. From two to six players can be involved and it is essential that they work as a team, otherwise they are overtaken by the flood and all perish. There is plenty of work for six people. Bridges and a raft need to be built, food needs to be provided, and the fire kept burning. During this time there are occasional showers of rain which cause the river to rise.

Earlier it was pointed out that IT was a convergence of many technologies that have existed and developed separately. When the computer, television and the telephone are altogether in "microscopy" offering information services access, electronic map facilities, telepresence, interactive video, wordprocessing, and a great many more, we might regret not having used the relatively unsophisticated but slowly developing electronic school library to create an awareness of the basic principles of IT.

Definitions continued

expands; and specific skills like choosing keywords, indexing and abstracting (in other words plucking the essential information from any given source) are seen as vital learning techniques, and not just mystical library devices.

Within all these library applications the possibility of pupils learning technological skills is excellent, because the pupils learn the skills in the context. It would be an exaggeration to suggest that the many uses of IT in the library offer extraordinary opportunities to develop particular skills like wordprocessing, data processing, file handling, keyboard skills and even programming, but each of these can be acquired to some extent in the library.

One has to be careful in these IT activities that the library does not simply become a learning laboratory where pupils experiment with information systems regardless of the disruption caused by their efforts. The school

library must be a smoothly functioning information service first and foremost, and it can be if the IT awareness and education is supervised by both teachers and librarians. Their cooperation in this enterprise is vital in order to preserve the balance between information, IT and subject content. Here, however, we come to something of a dilemma in determining the place of IT in education. While there is little danger of IT sweeping away the subject discipline approach to learning in schools, there is a risk that the technology might subjugate the information.

The question is "are we promoting an awareness of IT or in information?" The dominant element in IT is still "technology" rather than "information", and this is not surprising if you look at some of the definitions of IT. But while the emphasis will remain with the technology for some time - and, in fact, there is growing concern about the quality of the information transmitted, and the ability of the user to handle this information

Box of puzzles

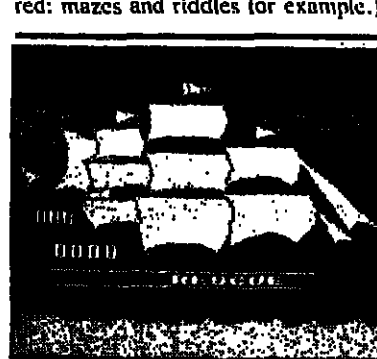
Dragon World £17.65 plus VAT for BBC Micro B RML 480Z version is being prepared 4Marlon Educational Resources, Linden Lea, Rock Park, Barnstaple, N Devon EX32 9AQ

Primary School Software is becoming more elaborate. Software designers are realizing the potential of the micro by pursuing the "package" concept, a program being one part of a complete set of materials which the classroom teacher can use.

Package software has advantages and disadvantages. On one hand it allows many children to work simultaneously. On the other it requires the teacher to be well organized and committed to resource-based education, emphasizing children learning and not teacher teaching. In my view this is no bad thing and it seems that 4Marlon, designers of Dragon World (advertised as being "Beyond Grumpy's Garden"), agree.

For your £17.65 + VAT you get the adventure program, four associated little programs, two 24 page A5 booklets, one 6 page A5 booklet, an audiocassette - containing music and the story, a cardboard DIY dragon cut-out and some A4 black and white duplicated record sheets. Plenty to go at with your class but to get the most out of the material you need to be sure that it suits your style and approach to teaching.

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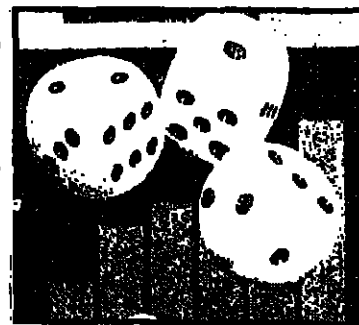
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EXTRA

Loading the dice

Andrew Rothery on maths programs for primary children



Maths with a Story: I £9.52 For BBC Micro. Versions will be available for Electron, Spectrum and Commodore. BBC Publications, PO Box 234, London SE1 3TH.

Cars Maths in Motion For BBC Micro, £18 + VAT. £1 p&p Cambridgeshire Software House, The Town Hall, St Ives, Huntingdon, Cambridgeshire.

Listeners to the radio series Maths with a Story will be interested to learn about the software being produced from the same source. However the Maths with a Story software can be used quite independently.

The first four computer programs for the BBC Micro are now published as pack one. A second pack of four is in production. The cassette tape includes a program to help transfer the software onto disk, if required.

All four programs have an option which helps the user learn the game or activity. Instead of the usual list of written instructions, these programs take the user through the first steps of each activity. Help is therefore given in an interactive practical way, making good use of a computer's capabilities.

Jigsaw is a puzzle activity. Shapes are drawn on a three by three grid and the nine pieces jumbled up. You have to reassemble them by interchanging pairs. You can design your own patterns or let the computer do one for you. The activity gives help with shape work. Though possible to organize as a group activity it seems best used as an individual basis, as is the next program, Pattern.

Pattern is a creative program enabling the user to draw shapes with various axes of symmetry. Shapes can be drawn ranging from ones with very simple mirror symmetry to more complex ones. The commands are easy to follow, even for young children, and the results can be quite impressive. What a pity the program does not allow you to print out your patterns or save them on disk.

The Two Dice Race Game is for two to four players. It has a specific teaching point. If you throw two dice and add the spots, some totals are more likely than others. To give children a feel for this, a race game is played in the life of a tall building. As dice are thrown, competitors' lifts move upwards. The screen thus produces a moving image of the bar graph which shows the distribution of dice totals. Though limited in scope, it is a useful group activity, making its point clearly. It is suitable for nine-year-olds.

Similarly, Colouring Puzzle is another program with one specific teaching point. It aims to convince the user that any map or diagram can be shaded with only three colours. This is a famous mathematical theorem. The program presents shapes of varying difficulty which the user shades in various colours. It is easy to use and interesting, for groups or individuals.

Cars Maths in Motion is a program which supports extensive project work on motor car racing. It is a simulation and its use would lead to as much work being done off screen as on screen. Pupils are to be divided into up to 15 teams, as required. Teams type in data about their cars and about their strategy for racing round a particular track. They can run practice laps and use the results to adjust their plans to improve performance. This involves a lot of discussion and various calculations involving simple arithmetic and percentages. Finally comes the big day when the race is run.

The program is a serious one; you do not see little cars running round the screen. When the practice laps are run, you receive written messages and diagrams on the screen to report on progress. The large amount of data accumulated by each team is stored on the floppy disk which contains the program. Therefore the work done by each team can be spread over several days or even weeks.

The software is supported by record sheets and maps of the race tracks, supplied as a resource pack with a disk. The program notes also give suggestions for practical activities with motors, gears, aerodynamics and other related technological topics.

Cars is absorbing and valuable, but both teacher and pupils have to be very keen on motor racing as a project topic if they are to survive the simulation.

Andrew Rothery

Throughout the use of the program the students are warned about the weather and about food supplies. The sense of urgency is very apparent. The discussions and arguments are an important feature of the program, and there is always one greedy person who wants to collect all the gemstones. The game is graded in difficulty from 1-4; all the children wanted to go on to the very difficult fourth game.

"Gunning Running" is an orienteering simulation exercise for up to four students. Although they take turns, they work independently as they start from different points and need to overcome a variety of hazards.

Working from a grid reference system a player needs to run cross country. Where the terrain is easy, movement is obviously faster than going through the forest or crossing marshes. There are markers to be found and hazards to be avoided, the cliff or a deep lake.

The winner is the player who finds four markers first, but the game does not end until all the players have found all of them, so the first player can find other markers to prevent boredom. Map reading and grid references need to be understood before this exciting exercise can take place.

"Gold Dust Island" is an exciting game which involves teamwork in a problem-solving exercise. Its aim is to escape from the island with, if you are lucky, your life and some gold. Our first few groups were greedy and went mainly for the gold. Others learned from their mistakes and plotted their strategies with greater care.

"Sheep Dog Trials" is an opportunity for two players using a sheep dog to get some sheep into a pen. It practices the use of alphanumeric grid square references.

"Quick Cartage Company" is more suitable for older children. It's a business simulation exercise for up to four students, and rather complicated. There are two towns, one of the city and one of the surrounding countryside. The object of the exercise is to run a profitable haulage company.

The students need to watch their fuel, their money and plan their runs to be as economical as possible. They are told which supplier stocks various building materials and they are told where the building sites are. It is not easy to move around, however, since hazards such as punctures can occur, which cause expense and time. Four teenagers spent all evening at this program.

Cathy Conlin

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Information processing

Brian Higgins on two very different introductory packs

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by P. Ayre and A. Payne
Teacher Handbook £5.95
Student Book £3.95
Software: BBC Model B (cassette)
£17.95 + VAT
BBC Model B (disk) £19.95 + VAT
RML 380Z (double disk) £24.95 + VAT
Data Processing: A First Course
by David Harrison
Student's Book £3.95 + VAT
Teacher's Book £4.25 + VAT
For BBC B (disk) £19.95 + VAT
Pitmansoft, Pitman Publishing, 128
Long Acre, London WC2E 9AN

to look at and seemed to be free from bugs. My only criticism is that the wages program could have been more realistic. A simulation of a small business would have been more believable than the counting of hours spent at school.

The crime program deserves special mention. The student's text presents the scenario for an armed robbery. Using the police database and the clues in the text, the students have to try and decide "who-dunnit". I enjoyed the

"I would recommend this package to any school or college that is attempting any kind of computer literacy course"

opportunity to be a twentieth century Sherlock Holmes.

Accompanying the package is the teacher's handbook. This book contains details about the programs, explains how they may be modified and suggests follow-up material and solutions to the problems set in the text. The book is a valuable addition to an excellent package. It is refreshing to find a publisher who not only allows access to their software but encourages the users to edit and change it.

I would recommend this package to any school or college that is attempting any kind of computer literacy course. (The student book which accompanies the course was reviewed in *The TES* p27, 9.11.84).

It is hard to believe that *Data Processing: A First Course* came from the same publisher. Whereas the last package is well-presented and original, this package is neither. The material is presented in a very dry and unimaginative way. The same old material about data processing has been dragged out and presented in a manner that is found in a hundred similar books.

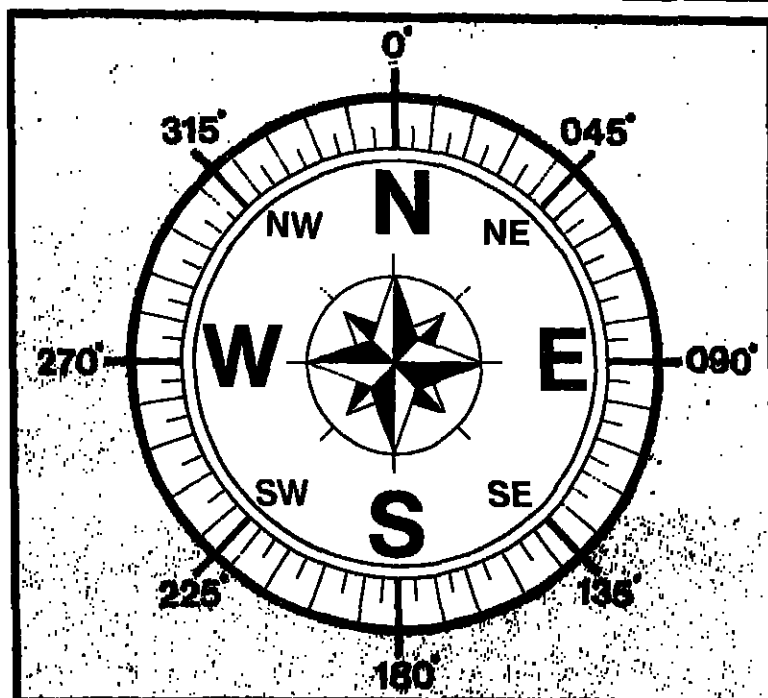
The software is of a similar low standard. Most of the programs run in the eighty column mode for no stated reason. Many schools have discovered that their new colour monitor, while being good at producing fancy colour pictures, leaves a lot to be desired when it comes to displaying a readable eighty column display. To make matters worse, the programmer has used a blue background with black lines. The programs themselves are boring to run. They do not offer much assistance when something goes wrong, halting abruptly when a user types in an incorrect filename and prompting the user to type "RUN" to re-start from the beginning.

The program to generate check digits (DIGICHECK) allows only one, or a contiguous sequence, of check digits to be displayed before you are thrown back into the menu program that is first displayed when you boot the disk. Similarly, the decoding program (DIGICHECK) asks for a number with a check digit tagged onto it and proceeds to check it for you. If an error is encountered you are blandly told that it is wrong and it is up to you to work out why.

Surely it would not have taken much more effort to produce a small piece of code that displayed the result and explained how it was arrived at. I found that students quickly lost interest in these programs. A bit of colour, animation or even some humour is needed to inject some life into this package.

The teacher's guide provides some further thought for follow-up material as well as the program listings (presumably so that you could rewrite them!).

I would not recommend this package as a self-study teaching aid for students because of its dry and unimaginative approach. It might be of some use as a secondary source of course material for the teacher.



Compass points

Micro Map 2
BBC disk or cassette with notes
£25 + VAT each. £39 + VAT with Micro Map 1
Longman Group Resources Unit, 33-35 Tanner Row, York YO1 1JP.
Flight Paths
BBC B disk or Commodore 64, with notes, £17.65 + VAT
Storm Software, Newbury Court, High Street, Gillingham, Dorset ST8.

Position, direction and distance are fundamental concepts of geography mathematics, and a number of related fields. *Micro Map 2* builds on the basic skills of scale, distance, bearing and grid reference introduced in *Micro Map 1*. Starting with questions on directions from specified locations, the unit moves to the slightly more taxing identification of an unknown position from specified directions.

Still more demanding is the identification of the starting and ending points of journey described simply by the order in which specified features or terrain types have been crossed. Compass points, compass bearings, relative bearings, grid references and feature recognition are all involved.

Unlike some similar packages, however, no attempt is made to use on-screen graphics. Instead the computer is used simply to set and assess a seemingly endless series of tasks which are actually performed on paper copies of a simplified map of the area around the imaginary village of Fendale. The authors argue that this is more educationally effective than screen graphics, since it allows children physically to handle maps, protractors or rulers, thus closely matching the normal use of maps to which they would progress. This no-nonsense and largely gimmick-free approach typifies Longman software, and increasingly differentiates it from many of its competitors.

A variety of skill levels is available, bridging the gap between upper primary and lower secondary, and though it is probable that most children would use the program in relatively small doses given its rather repetitive presentation and closely-related series of tasks, there is little doubt that considerable educational benefit could be derived both in an individual and in a group context.

Some rather similar skills, effectively disguised, are central to the airline routing simulation called *Flight Path*. Aimed at much the same age range, this program involves planning a flight across Europe, selecting an aircraft and intermediate stopping points.

While much of the fun lies in an element of role-play as the aircraft captain makes his decisions, this aspect of the simulation is best regarded as a motivating framework for the more rigorous core skills. The first of these requires the distance and bearing for each leg of the route to be specified. It is possible to adjust the program's own measuring scales on a screen display of a map of Europe using cursor controls. But this aspect may be more beneficially used as a basis for introductory atlas work as it is possible to initiate the flight on an animated map and check whether the aircraft arrives at the

selected destination. You can also obtain a score based upon an inevitably crude model of revenue earning which incorporates aircraft size, fuel used, number of passengers, flight altitude and weather.

However, the real challenge undoubtedly lies in the problems to be solved if an option is selected to introduce a wind factor. This immediately affects speed (and thus time and fuel), and also produces wind deflection of the aircraft which requires computation of a course correction. Both speed and course corrections can be explained through an on-screen tutorial, and are actually achieved with the help of a printed reference chart, but nevertheless these tasks demand considerable alertness and provide excellent practice in two-dimensional visualization.

M J Clark

EXTRA

Field day for Einstein

Jerry Wellington on new simulations for physics classes

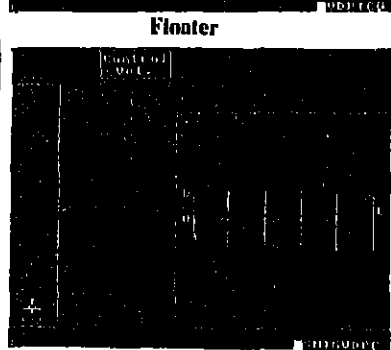
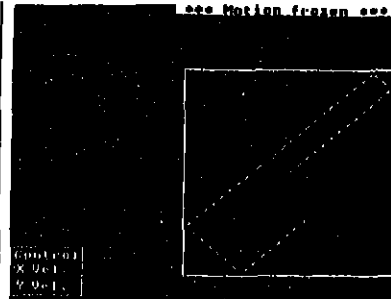
Flouter
Lift
BBC B, disks with booklets
each £16.50 + VAT
Homerton College for Cambridge
Micro Software, CUP, Shaftesbury
Road, Cambridge CB2 2RU.

Here are two new and interesting simulations from Cambridge Micro Software, to add to their existing list for science teachers on heat loss in the home, chemical collisions, diet, and molecular movement. However, the two new simulations are perhaps more specialized and unlikely to achieve such a wide appeal.

Flouter simulates the motion of a frictionless particle in a two-dimensional frame. The particle can be allowed to move freely in a straight line and rebound elastically from the sides of the box. Alternatively, you can control the motion of the particle with a joystick (essential when using the program) which can change the direction and velocity of the particle. The program is surprisingly involved, some would say complicated, in allowing the user to study the displacement, velocity and acceleration of the particle as it moves within the box.

When first using the program, options seem almost endless and perseverance is needed to explore its possibilities fully. The "flouter" can leave a trail of dots as it moves across the screen. Vectors can be displayed showing the displacement of the particle from the centre of the box. Another option allows a graph of displacement against time to be drawn alongside the box. For students who delve further into the program up to nine vectors can be shown on the screen, six of which show the horizontal and vertical components of the displacement, velocity or acceleration of the floating particle while three describe the displacement, velocity or acceleration as polar vectors.

Further options allow digital display of the various numerical quantities associated with the flouter's motion. As you can imagine, school students need determination and above average ability to work through the numerous possibilities in *Flouter*. In my view it is best suited to 14-18 year olds in the top ability range who are specializing in physics. Its full potential has barely been touched upon here. For example, one use for a teacher is in preparing worksheets or visual aids from the screen displays of the program. This is made possible by a utility program (included) which can be used to print out the required display, eg a displacement-time graph. Useful



placement, velocity or acceleration as polar vectors.

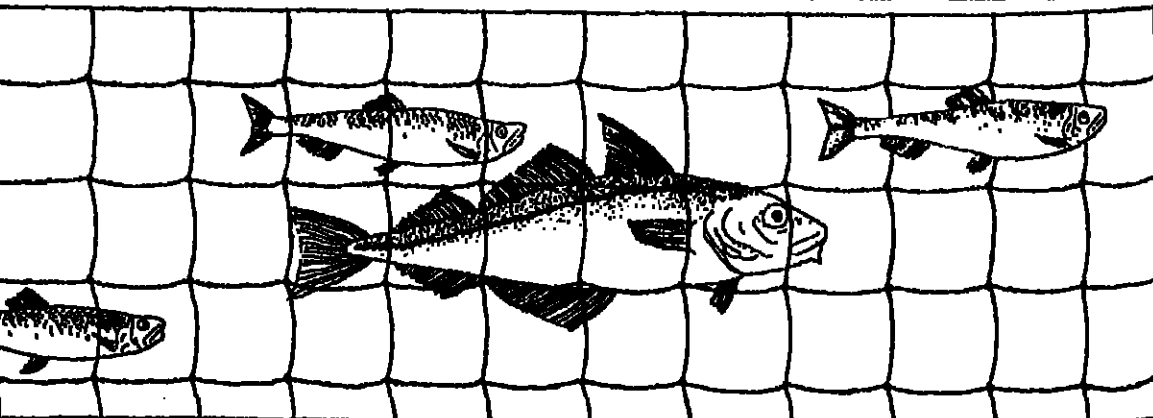
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examples of worksheets and questions are supplied in the booklet accompanying the program. In short, this is a well-designed but complex program, ideal for the more able student, yet surely too involved and abstract for the average pupil.

The second simulation, *Lift*, is perhaps more fun to use since it involves sending a tiny figure called Mabel up and down in a lift shaft. Mabel is amazingly resilient and flexible. Her mass can be varied from 0.01 kg. Her gravitational acceleration can have a value between 0 and 10 ms⁻². A spring balance can also be moved with Mabel, both controlled by a joystick. As Mabel's velocity and acceleration are changed, different readings are shown on the spring balance ranging from 0 to 30 newtons.

In the same way as in *Flouter*, a huge variety of options are available. Mabel can leave a trail of dots in the shaft, whose spacing can be studied using a grid which can be added. The scale can be magnified and shown next to the lift shaft so that Mabel's effect on them can be clearly seen as she moves up or down with different velocities and accelerations. As with *Flouter*, different vectors can be displayed on the screen to describe Mabel's displacement, velocity or acceleration. These quantities can also be displayed digitally. A further option is "Plot", which allows graphs of Mabel's motion to be drawn - again these can be printed out to paper. I enjoyed using *Lift* and I am sure Albert Einstein would have had a field day with it.

This review has barely touched upon the myriad of possibilities available in these two programs. Both provide almost endless options for a student to explore if she has the ability and perseverance. They cover narrow yet central topics of the physics curriculum and will therefore provide a valuable resource for the 14-18 range.



Biological control

John Tranter on biology simulations

Warwick Science Simulations
Biology Pack 3
Price £25
for BBC disk and RML 380Z/480Z disk. A 56K 380Z is required for one program. Accompanying booklets are available separately.
Longman Micro Software, Longman Resources Unit, 33-35 Tanner Row, York YO1 1JP.

This is the latest package of Warwick biology simulations and includes programs titled "Biological Control", "Trawlers", "Mesh" and "Predator Prey". They are designed to support work with A-level students or above.

"Biological Control" simulates the problems of producing the maximum profit from a greenhouse crop of tomato plants, while combating infestations of whitefly pests. Students can manipulate a number of variables, including heating the greenhouse, adding pesticides to control the whitefly or using an insecticide.

The program gives an output in the form of a table of various data each day for seven or more months.

This is quite time-consuming, but students can "skip" several days by using the "Quick" option. At any time

the program can be halted to consider the current situation and take appropriate remedial action. In addition, graphs can be displayed to show how the pest and parasite populations are developing and a summary table provides a progress report on how much money has been spent, the profit obtained and the damage inflicted on the crop.

"Trawlers" and "Mesh" are similar in that both model the effects of fishing on an area of ocean and take appropriate remedial action. In addition, graphs can be displayed to show how the pest and parasite populations are developing and a summary table provides a progress report on how much money has been spent, the profit obtained and the damage inflicted on the crop.

It is in the considerable complexity of the situations that the simulations model, that most difficulties will arise. Students will need to spend a great deal of time to understand fully all the implications of their actions in manipulating variables. The programs are well written to enable this interaction to be carried out easily by pressing single keys (with the 380Z version tested), but so much information is often presented that this is not always easily assimilated. Less than a minute biologists will find "Predator Prey" particularly impressive, and "Biological Control", although an enjoyable and motivating simulation, is not at all straightforward in many respects.

It cannot be said that this package covers particularly mainstream areas of biology and this, combined with the simulations' complexities, will unfortunately limit their usefulness in schools. They are certainly programs to inspect at MEP Information Centres before investing.

colour and high-resolution graphics, and have very full accompanying documentation. It is essential to familiarise oneself with the notes and worksheets on how to use the programs; these are definitely not simulations that can be readily understood just by observing the output on the screen.

While much of the fun lies in an element of role-play as the aircraft captain makes his decisions, this aspect of the simulation is best regarded as a motivating framework for the more rigorous core skills. The first of these requires the distance and bearing for each leg of the route to be specified. It is possible to adjust the program's own measuring scales on a screen display of a map of Europe using cursor controls. But this aspect may be more beneficially used as a basis for introductory atlas work as it is possible to initiate the flight on an animated map and check whether the aircraft arrives at the

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0340 26899 9 Limp £4.75

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A J Obrist

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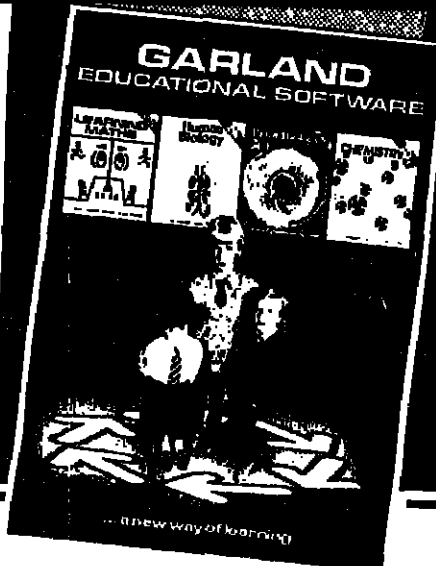
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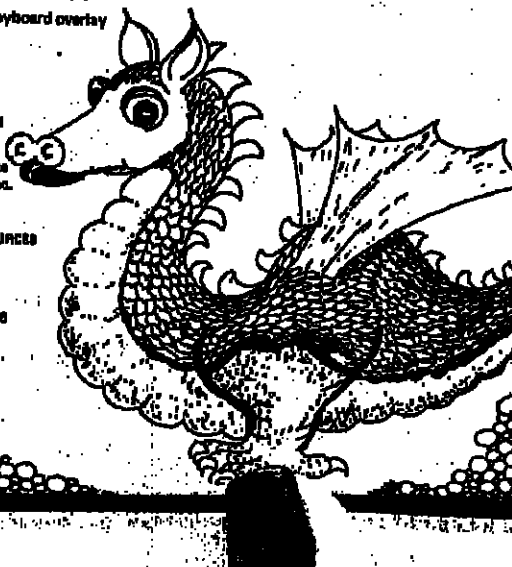
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C Diet Analysis Program
Chelsea College: Computers in the Curriculum Project
Disk £18.95 for BBC Model B, RML 3802/4802 and Apple.
Longman Software, Longman House, Burnt Mill, Harlow, Essex CM20 2JF.

Teaching sound nutritional objectives is regarded by many as both time consuming and an almost impossible task. The very mention of the words nutrition, dietary goals, food tables, recommended daily intake, etc is enough to put even the most experienced teacher in a "quake" and will encourage pupils to switch off. Even more disastrous to the teaching of sound nutrition is reversion to what is often regarded as the more traditional and safe method of teaching the subject, ie learning about the composition of proteins, fats, carbohydrates, vitamins and minerals with little reference to the selection of the food consumed or the choice and taste of individuals.

The computer program *C Diet* is a brave and adventurous attempt to analyse individual dishes, and involves the operator in the selection and analysis of his or her personal diet. The program is so designed that even the relative novice can investigate the nutritional value of food consumed. It facilitates planning and analysis of meals eaten by specific individuals of

Lesley Smith looks at a program which explains important and useful nutritional messages

various ages and varying backgrounds. It is possible to use this program to look at traditional foods produced by the school cafeteria, or to investigate the value of "unsatisfactory" meals.

The program is particularly useful in encouraging youngsters to evaluate their own particular eating patterns, in line with Department of Health and Social Security recommendations. However, it does little to clarify the difficulties encompassed in selecting healthy foods from those produced in our highly industrialized society. As a nation, we are eating greater amounts of processed food: the use of fast foods in the home and the increased use of take-away foods often mean that the consumer is not aware of all the ingredients included in a particular dish, especially the additives. This increases the difficulty of selecting a nutritious and healthy diet. It also reinforces the argument that all our pupils should be educated, not only in nutrition, but in food production and preparation.

How far the *C Diet* program can be used as part of such moves in the

teaching of nutrition, is debatable. In the 'Teachers' Guide' accompanying the program it is clearly stated that the daily nutritional requirements are based on the 1982 *Recommended Daily Intake of Nutrients*, as supplied by the DHSS. More recent developments as outlined and endorsed in the National Advisory Committee on Nutrition Education report produced by the Health Education Council, encourage the use of the now widely accepted dietary goals in the selection of foods. These include reducing fat, sugar and salt intake and increasing the intake of dietary fibre.

Data supplied by the *C Diet* program could be considered by some to be a dated view of what is currently being encouraged and accepted as healthy eating. The 122 foods listed do not encourage students to select or modify individual eating patterns which reflect dietary goals, and could be thought to endorse foods which are currently being discouraged.

If the aim of a planned nutrition program is to explain simply and accurately, important and useful nutritional messages and their application in showing dietary selection and analysis, then this program goes part way towards this end. Its use in the classroom would depend on the philosophy and objectives of the individual teacher and the method he or she employs to this end.



THINK FIT

Esso Five Star Award Scheme-Administrative Program
For BBC Model B
Disk £20
October Pen, Little Hyden Lane, Clonfield, Hants PO8 0RU.

The thrills and excitement of individual athletic achievement had been denied many of our pupils prior to the Five Star Award Scheme. The scheme is sponsored by Esso and administered by agents of the Amateur Athletics Association in their spare time. Its objective is to encourage youngsters to participate in a wide range of athletic disciplines, and to provide them with a set of standards by which to measure their own achievements.

More than 1,500,000 certificates are sent each year to youngsters who have taken part, and while it is hoped that some of those who take part will use it as a stepping stone to joining an athletics club, the main intention is to interest and encourage every child at each level to have a go.

However, the addition of the Five Star Award Scheme and its administration has inflicted further work that has to be completed out of school hours on already hard-pressed physical education teachers.

We are constantly reminded that we are in an age of new technology, yet many teachers are still wondering how this technology is going to be of value to them. In the area of administration however, both schools and the business world are in agreement that the

How can computers help in physical education? Geoff Strack tests a program for logging pupils' times, heights and performances in 15 sporting events

new technology will considerably improve the present system. This of course includes the organization and administration of the Five Star Award Scheme.

The basic framework of this computer program that is designed for use with the scheme is a database. The first time that it is used is the most difficult because the initial typing in of the full names of all the youngsters in the school takes a considerable amount of time. In subsequent years the time required for this process is reduced considerably, since there are only the names of the incoming first year to add to the list. Youngsters joining or leaving the school at other times are easily accommodated by the program and lists can be of mixed age or sex according to demand.

The entry and update of individual times, heights and performances for up to 15 different events can be made at any time and at the end of the season the computer assesses these results, applying the AAA rules, and works out the appropriate awards. The com-

puter then prints out detailed copies for the youngsters and listings for the teacher.

The computer automatically selects the best results for each award including pentathlon and decathlon. An order form is then printed out ready to be sent to the Five Star Agent and details of any outstanding performance are included.

In some schools it is apparently common practice to use the Award Scheme scoring system for inter-group and inter-class competitions and one section of the program allows the input of each individual's time, etc and then provides the group total.

On starting up the program by holding down the SHIFT key and pressing BREAK, a title page is produced. This leads on to a selection of printer and disk drive options. If a single disk drive is used, prompts appear throughout the program instructing the user to insert the data disk or program disk. An extremely useful addition at the beginning of the program is the choice of a three-page copy of the instructions, produced on a printer. These we found were perfectly adequate to use on an in-service course.

The rest of the program is menu driven with four options appearing on the initial menu page. The first of these options leads on to a second menu with eight options including the choice of returning to the first menu. A set of data to practise with is provided on the program disk, and the printed copies are produced from this.

EXTRA

Heavens above

Frank Anstis tries out packs for star gazers

Starfinder
Heather Couper & Ronald Alpar
Cassette £12.95
Century Publishing Co. 12 Greek St, London W1
Starseeker
Paul Phillips
Cassette £9.95, Disk £12.95
Mirrorsoft, 33 Holborn, London EC1
Astronomy
John Banks
Cassette £9.20, Disk £13.80
BBC Soft, BBC Publications, PO Box 234, London SE1 3TH.

Two of these three packs - *Starseeker* and *Starfinder* - have a similar aim and differ only in detail. Each offers a facility for selecting a date (from this century for *Starfinder* and any since 1840 until the end of the 21st Century for *Starseeker*), a longitude and latitude, a time of the day, and a preferred direction of viewing.

The program then displays on screen a star map for that particular part of the sky. A cursor can be moved about the screen, and once a particular star is located its name and other details are displayed. Both programs will also provide a print-out on Epson or Epson compatible machines.

It is possible to locate the sun, the moon and Halley's comet on either program, and *Starfinder* users have the

option of adding their own "user object" to the plot of the other stars. As an example of the versatility of the programs it was possible to choose an aspect for August 11, 1999 with the latitude and longitude of Land's End and then, by watching the sky plot at hourly intervals, observe the stages of the solar eclipse predicted for that date.

These packs came for review in cassette form for use on a BBC Micro but disks are also available for *Starseeker* and give speedier loading. Since their arrival these programs have been used and commented upon by a 13-year-old youngster with no special knowledge of astronomy, by sixth-form pupils, and by members of an amateur astronomical society with ages ranging from 19 to 90. Among these users there was general agreement that the programs were ingeniously compiled and of considerable interest.

Either program clearly provides a useful and instructive aid both for teaching purposes and for help with the planning of an individual's night sky viewing. Choosing between the programs is a matter of personal preference. *Starfinder* has the advantage of a handbook containing a lively outline of astronomy by Heather Couper - this year's President of the British Astronomical Association. It was simple to use *Starfinder*'s cursor to

call up information on a chosen star from the data bank: its programs were judged to be easier to use by those with a limited knowledge of astronomy.

On the other hand the graphics of *Starseeker* were generally preferred, its options more varied, and instructions for their use both more detailed and more clearly explained. There was special praise too for *Starseeker*'s facility for tracing the outline of the constellations and for its ability to increase or decrease the field of view.

The five programs of *Astronomy*, despite the general nature of the title, are concerned with the solar system. Four of them, *Phases of the Moon*, *Eclipses of the Sun*, *Seasons of the Year*, and *Planetary Motions* provide useful aids for teaching these difficult concepts to pupils from 13 years upwards. Its graphics are very good and there is ample scope for testing and re-running: all this places a heavy load on the machine's memory and there is a consequent loss of accuracy at certain points - this is clearly defined in the accompanying handbook. The fifth program, although intended as a game and providing information for soft-landing a spacecraft on a planet, also gives a great deal of information of interest to able sixth-form scientists. The pack is also available on disk and this would certainly be the better option where choice is possible.

Down to earth

M J Clark looks at the changing scene of geographical software

Sea Cliff Erosion
BBC B Cassette and Notes £15 + VAT
Netherall Software, Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU
Rice Farming
BBC B Disk and Notes (also available for several other systems) £15.95 + VAT
Longman Micro Software, Longman Group Resources Unit, 33-35 Tanner Row, York YO1 1JP.

Several years into the so-called "micro" revolution, many teachers and publishers still seem to be wondering when the educational advantages achieved are going to match the poten-

'The underlying problem demonstrated is that simulations can only be as good as the numerical relationships on which they are constructed'

tial claimed so enthusiastically by computing enthusiasts. In geography, the search for viable classroom applications has focused increasingly on simulations (merging imperceptibly into games and models).

At a professional level, such simulations would most commonly be used to aid conceptualization (ie to improve understanding or visualization of how something works) or to predict, and thus manage, outcomes (ie to check the effect of altering some of the factors or relationships involved, or to test hypotheses).

It is instructive to assess school software against these dual aims, to consider whether the best use is being made of the medium.

Sea Cliff Erosion claims to be "a flexible, exciting and graphic means of teaching geomorphology", and suggests that such attributes are seldom achieved by traditional teaching methods. This arrogant assumption typifies the worst kind of computer application, since it would be a poor teacher indeed who could not greatly improve upon the suspect educational standard reached by this particular piece of software. Good programs demand sound conceptual content and appropriate presentation, neither of which can be found in *Sea Cliff Erosion*.

The aim of the unit is to demonstrate the effect of angle of dip and relative rate of cliff-foot and cliff-face erosion on the resulting cliff profile and its associated deposition. While changes in the inputs undoubtedly lead to different pictures on the screen, the actual profiles produced are often quite ludicrous. Indeed, it is difficult to find any option that is not seriously

flawed in both mechanism and end-product, since the simulation is based upon a series of erroneous assumptions about the nature of the processes involved. One wonders quite why a reputable publisher should adopt such wildly contrasted standards for its text and software products.

The underlying problem demonstrated is that simulations can only be as good as the numerical relationships on which they are constructed; a number of programs currently available seem far more interested in what is on the screen than in what is used to compute that display.

It is unfortunately an unavoidable dilemma that a model simple enough to be used by children after a relatively brief familiarization is likely to be in grave danger of oversimplification. However, this does not mean that the technique is inappropriate in the classroom - merely that it needs careful design and intelligent use. *Rice Farming* is typical of a number of simple models that are available to geography teachers. As is so often the case, the actual topic (rice) is merely a vehicle for more general understanding of the economic decisions required to optimize the returns from marginal agriculture in an unpredictable climate.

Up to six "farmers" can pit their wits against the vagaries of rain, drought and pests by deciding how to spread their income between the purchase of seed (high or low yield), fertilizer, pesticide and irrigation. The "game" is turned into an educational experience by introducing concepts suitable for follow-up, and by providing a basis for discussing what would be the best strategy for ensuring survival or profit. The handbook, perhaps wisely, provides no guidance on this point.

There are many other "decision-making" programs on the market, and clearly no student will wish to use more than a very few since so much of the benefits lies in the general rather than subject-specific awareness gained. What makes Longman software particularly successful is that it fully documents the model used to produce the simulation - stating exactly the probabilities of the various environmental disruptions and the resulting rice yield structures to be expected.

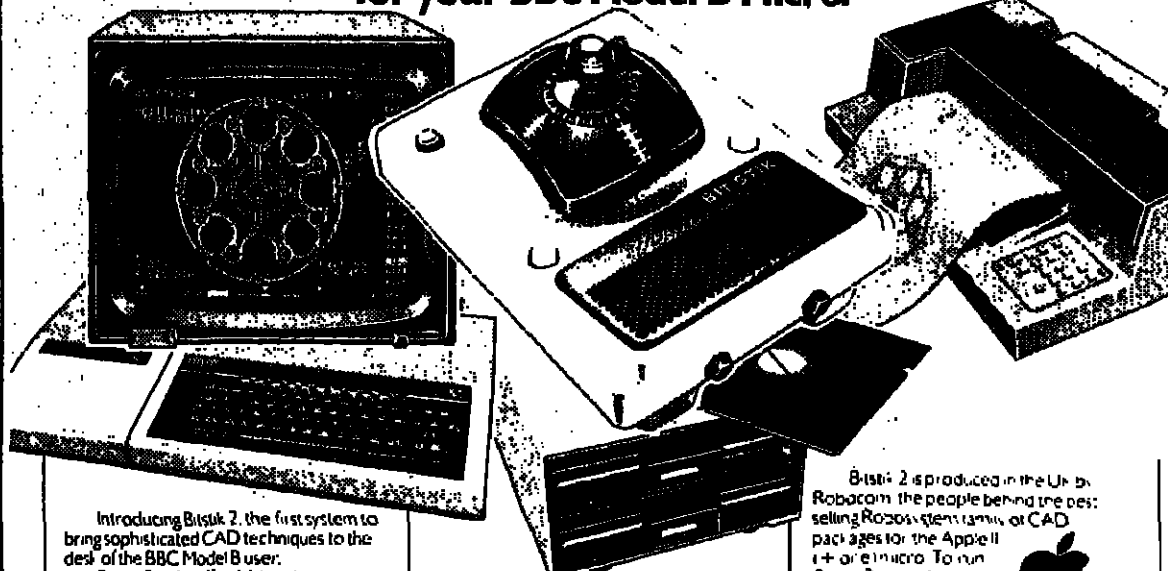
While some introductory use of the program is possible without this information, it is the specification of the model that permits the teacher and the advanced student to understand the nature of the operation being performed. Indeed, in many ways this is the most valuable part of the whole exercise, since it alone turns play into education. There should be a government health warning on any simulation software that does not have the honesty to specify its model!

A comparison of *Sea Cliff Erosion* and *Rice Farming* provides an instructive indication of the difference between good and bad educational simulations with simple models.

PROFESSIONAL CAD FOR PROFESSIONAL RESULTS

New Robo Bitstik 2 tunes in to the BBC...

At last a full Computer Aided Drafting System for your BBC Model B Micro.



Introducing Bitstik 2, the first system to bring sophisticated CAD techniques to the desk of the BBC Model B user.
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These advanced features represent a significant step forward from the existing and very successful Bitstik Graphics Systems. Yet Bitstik 2 users can obtain Bitstik 2 at a Special Upgrade Price.

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See us at the ACORN SHOW, Barbican, London 25-28 July 1985. Stand No 133-140.



RoboCAD, Clifton House, Clifton Terrace, London W11 1TB. Telephone 01-263 8545/22 8417, Telex 297137 ROBOD G.

HARROW
EDUCATION COMMITTEE

HATCHEND HIGH SCHOOL
Headquarters Lane, Harrow,
Middlesex HA1 3BN
01-428 4330

Scale 1 teacher of Mathematics for September 1988/89 in this 12-16 co-educational comprehensive school. The successful applicant will be teaching lively, enterprising Mathematics Department and will be required to teach throughout the ability and age range from including 'O' level. It will be helpful if applicants would submit a resume contribution to their P.E.

Please apply by letter, giving full name and home address and two references. Please enclose a stamped address label.

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BRIDGWATER
(P. 604)

to be Head of PHYSICAL EDUCATION
of this subject throughout the school.
pressed to the Head of the school from
form may be obtained (see please)

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and boarding. N.O.R. 400, 150 in sixth
D for this Group 9 school. With special
y due to the promotion of the present
and creative role in the boarding com-
SCHOOL, ALCOMBE,
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SHEPTON MALLET
(D.R. 708)
Teacher, Scale 4, to fill the post of COM-
munity School for Adult Education. A youth
education in Shepton Mallet and district.

L. WELLINGTON
(D.R. 780)
Period of one year, part-time Teacher of
crafts per week to teach mainly in two
ability classes in years one and two. The

DL, WINCANTON
J.O.R. 790, and Community Education
One teacher of DRAMA Scale 1. One year
the school, including C.V. names of two
subjects if for full time.

SUPPORT TEAM
Desirable, well qualified and experienced
Education Support Team (Children with
the Team provides additional help for
normal proportion of children with learning
will be working in the Bridgwater and

ed for similar posts in the Taunton and/or
this post on request.
from the Staffing (T) Section, Education
TA1 4DY.

PRIMARY, DOULTING, NEAR

Teacher, Scale 1, for top infants. Able to
overage. Applications invited from both
scholars. Temporary appointment for one
retirement, previous applicants will be
at the school, as soon as possible, with
reference.

ESSE C.E.V.A. PRIMARY

teacher Scale 1 for UPPER INFANTS/
appointment for one month in the first
session to one year.

(18881)

For September 1985, enthusiastic teacher Scale 1 for UPPER INFANTS/ LOWER JUNIORS. Temporary appointment for one month in the first instance with the possibility of extension to one year. Practising Christian preferred. Closing date 1st July 1985.

LEEDS CITY COUNCIL
DEPARTMENT OF EDUCATION

Applications for the post of Headmaster/Headmistress should be sent to the Director of Education, Education Department, Government Secretariat, 17, Meridian House, 110 Morrison Causeway, Kowloon, Hong Kong. Applications for the post of Deputy Headmaster/Headmistress should be sent to the Director of Education, Education Department, Government Secretariat, 17, Meridian House, 110 Morrison Causeway, Kowloon, Hong Kong. Applications for the post of Deputy Headmaster/Headmistress should be sent to the Director of Education, Education Department, Government Secretariat, 17, Meridian House, 110 Morrison Causeway, Kowloon, Hong Kong.

SPECIAL SCHOOLS

SCALE 1 POSTS

NOWELL SCHOOL
No. on Balli: 771 S-10 years
Nowell View: 159 Hill
Telephone: 401272
Acting Head Teacher: Mrs I Pearce

E.792 Teacher to take pastoral group duties and be responsible for curriculum and developing language programmes throughout the school. Incentive in computer aided learning aids integration.

E.793 Teacher interested in behaviour approach to work with small group individual programmes throughout school. Aims to be responsible for some class group work through curriculum.

Qualifications in education of children with severe learning difficulties essential for these posts.

E.794 BROWNILL, L. PRIMARY S

HORSHILL'S LANE, L59 6DT
Telephone: 497422
Head Teacher: Mr R. Smith, RA
Teacher for class of 4th year primary children. Please state special interests.

NR. 795
BRUDENELL PRIMARY SCHOOL
No. on Roll: 285; 3-6 years + Nursery
Watton Road, L54 1DT
Telephone: 785 104
Head Teacher: Mrs J. E. A. Boland
Nursery (trained teacher) interested in multi-cultural education. Close date 1st July.

NW. 796
HORSFORTH BROADGATE INFANT SCHOOL
No. on Roll: 80; 3-5 years + Nursery
North Broadgate Lane, Horsforth LS18 5AF
Telephone: 665 2363

Telephone: 645-445
Head Teacher: Mrs S. Green

Teacher of 6-7 year olds. Please state special interests.
NEL 798
NORCOTON PRIMARY SCHOOL
 No. on Roll: 204; 5-6 years
 Shadwell Lane, LS17 6DR
 Telephone: 639151
 Head Teacher: Mrs J. Godrich
 Teacher for reception class initially, but willing and able to
 throughout school. Please state special interests.
W.799
PURSEY LITTLEMEOR INFANTS SCHOOL
 No. on Roll: 198; 5-7 years
 Valley Road, Pudsey, LS28 9ER
 Telephone: 571823
 Head Teacher: Mrs J. M. Stinger
 Teacher of middle infants.

F.800 **ILARETHILS MIDDLE SCHOOL**
No. on Roll: 453; 9-13 years
Hatchilla Road, LS8 5HS
Telephone: +92181
Action Head Teacher: Mr.

Required for January, Head Teacher (Group 6). Details from District of Education.

HIGH/SECONDARY SCHOOLS

SCALE 1 POSTS

NW.201 ABBEY GRANGE CE (AIDED) HIGH SCHOOL
No. on RofS: 800; 13-19 years
Bachur 1 Mil, L5 to 5EA
Telephone: 757877
Head Teacher: Mr P. J. Lee, BSc
Teacher for Mathematics throughout school, with some lower

BOSTON SPA COMPANY
No. on Roll 1779; 11-18 ye
Signed Mass Bond. Re

Telephone: Boston Sp422915
Head Teacher: Mr. F. D. Sulton, BSc, BA
Teacher of Mathematics. SMP courses well established in school.
Please state second subject.
COCKBURN HIGH SCHOOL
No. on Roll: 380; 13-18 years
Moort Grange, Parkside Avenue, LS16 6EW
Head Teacher: Mr. K. C. Robinson, BSc
Teacher of French and German. Details from school.
LYNWOOD SCHOOL
No. on Roll: 1138; 13-18 years
Ring Road, West Park, LS16 5AG
Telephone: 782333
Acting Head Teacher: Mr. P. L. Dantzig, BA
Teacher of commercial subjects and other Typewriting, Commercial
Arithmetic and other subjects.

Teacher to be responsible
shortly be moving to new

NW-807 **NOTRE DAME RC HIGH SCHOOL**
No. on Blvd 663 (glen) 13-18 years
St Mark's Avenue, L22 9BL
Telephone: 432715
Head Teacher: Miss M. McNamee, M.A. DipEd
Well qualified Biology teacher able to take A, Avd and 16+ class
to teach General Science. Details from Head Teacher.

S.806 **ROBHLIAN SCHOOL**
No. on Rd 1850: 11-18 years
Longthorpe Lane, Louthoove, Wakefield WF3 3PS
Telephone: Wakefield 823 135
Head Teacher: Mr. Kavanagh
Department of CDT to jobs Department based in well equipped
rooms. Information from Head Teacher.

Telephone: 865317
Head Teacher: Mr C. A. I

NW.810
LAWNSWOOD SCHOOL
No. on Roll: 1238-13-18 years
Ring Road, West Park. L516 5AG
Telephone: 78231
Acting Head Teacher: Mr P. L. Dunning, B.A.
Temporary for one year, teacher of Boys PE able to make contact
to work of well established Remedial Department.

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LONDON BOROUGH of CROYDON

EDUCATION COMMITTEE

Applicants are invited for the following posts involving Special Educational Needs.

Woodview Social Services Assessment Centre

An enthusiastic and imaginative teacher is required to work with a small group of 12 to 14 year olds, at the Woodview Centre and possibly in some Secondary Schools.

The successful applicant will be a member of Multi-professional team and should be able to offer a confident and sympathetic response to pupils who will

need continuity during this period of their Education
Salary: Scale 2
Tenable: 1st September, 1985.

Support Teacher for Under Fives with Special Educational Needs

A lively and sympathetic teacher is required to work with groups of three and four year old children mainly in Nursery Schools and classes. The teacher will play a key role in Croydon's Developing Service for young Children with Special Educational Needs and, as well as teaching groups of children will be required to offer support and advice to colleagues of a number of issues related to the teaching of Children with Special needs in a Nursery setting.

Salary: Scale 2
Tenable: 1st September 1985.

Educational Centre for Adolescents (SPAN)

The SPAN Unit caters for adolescents with a range of social, emotional and Educational Needs. They include school refusers, school phobics and pupils who have been excluded from Secondary Schools.

An enthusiastic and skilful teacher who can show initiative is required for September 1985 or as soon as possible thereafter. Experience of Children with Special Needs is not essential as sensitivity to the needs of troubled children and the ability to respond to a range of complex demands.

The successful applicant should be able to participate in a varied programme of options; an ability to teach C.S.E. Social Studies would be an advantage. Additional information on request.

Salary: Scale 2

Deadline: 1st September 1985.

Application forms are available from Director of Education, Education Department (TAB), Taberner House, Park Lane, Croydon, CR9 1TY. Tel. 01-885 4433 ext. 2574 to whom applications should be returned by Wednesday 28th June 1985.

These posts are exempt from LMOSC procedures but applications from employees of GLC or MCC with relevant experience will be welcome.

11870

Meldreth Manor School

Two Posts (Possibility of Scale 2(S))

Both posts are available as a result of promotions from September 1985, in this large (115 pupils, 5-19 years) residential school for young people with cerebral palsy and mild to severe learning difficulties.

These posts offer unique opportunities for work within excellent facilities as members of a multi-disciplinary team.

1. TEACHER

with responsibility for assessment

Main Purpose: To provide detailed assessments on all now entrants to the school. There is close support available from a full-time educational psychologist.

Background/training in educational psychology an advantage, but not essential.

2. CLASS TEACHER

with responsibility for resources/microtechnology

Main Purpose: To continue to develop the use of microtechnologies aids throughout the curriculum.

Please write (a.s.a.) or telephone for application form and further details to:
Mr. K. McEvoy, Headteacher, Mairdeth Manor School,
Mairdeth, Nr. Royaston, Harz. SG8 8LG, (0763) 80771, to whom
completed application forms should be returned within two
weeks.

THE SPASTICS SOCIETY

**City of Birmingham
Education Department**

Round Table Autistic Unit
Longwill School,
Bell Hill, Birmingham, B31 1LD

(a) **Scale 1 teacher with a knowledge of, or experience in working with children with severe learning difficulties. A qualification in mental handicap would be preferable, but not necessary. An interest in developing Art and Crafts throughout the school would be useful.**

(b) **Scale 1 teacher with experience of children with specific learning difficulties associated with communication problems required for one term only.**

Application forms and further details available from Headmaster, Tel. 021 475 3923.

Closing date 5 July 1985.

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(19723)

BIRMINGHAM

CITY COUNCIL

SPECIAL EDUCATION

continued

NORTHAMPTONSHIRE

SERVICE FOR HEARING IMPAIRED CHILDREN
The William Knibb
Montagu Street, Kettering,
Northants NN16 8AL

PERIPATETIC TEACHER OF DEAF
Scale 3
Experienced Teachers holding the additional qualification for Teachers of the Deaf are invited to apply for this post.

The successful candidate will be based in Kettering and work in the north eastern half of the county.

Application forms and further details (all please) are available from the Head of Service (see address above).

Closing date: 5th July 1985 (15.45) 160022

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Preparatory Schools

Headships

LONDON
ORANGE PARK
PREPARATORY SCHOOL
13 The Chine, N21
The post of Head falls vacant on 1st January, 1986. Orange Park is an independent school of 90 pupils, mostly from 3-11 years. Applications with curriculum vitae and the names of 3 referees should be addressed to the Chairman of Governors of the school by Friday 5th June 1985. 2000

Deputy Headships

**Second Masters/
Mistresses**

HERTFORDSHIRE
LOCHINVER HOUSE SCHOOL
Heath Road, Porters Bar EN
13
LW. P.S. 310 day boys aged 13
13
Required for January 1982
DEBURY HEAD who will
teach MATHEMATICS up to
scholarship and Common E
and in the evening in churc
COMPUTERS. The post is e
sible for someone aged 30
and upwards, who is charac
perhaps seek further pro
tion to a headship in the fut
Salary Burnham Deputy E
Sept 82 Grade 7 with salary a
wages. Government Sub
annuation.
Apply to the Headmistress

By Subject Classification

Classes

Other Assistants

BERKSHIRE
I.A.P.S. Boys' Prep. Sch. requires for September: teacher for middle school; social studies and Latin teacher; C.E.E./Scholarship; keepers and capability for research.

English

Heads of Department

SURREY
SURREY HILL SCHOOL
Oxshott, Surrey KT22 0JG
I. A. P. S. Co-Educational D
School
SCHOOL OF ENGLISH

or January 1986.
As Head of Department
primarily in teaching
9 - 13 age group to Co-
Entrance and Public 9
Scholarship level, the r
appointed, who will be a
versity graduate, will b
quired to take respons
for the school library,
school magazine and a ha
perence of producing a
plays.
Salary commensurate
experience and qualific
Applications together
full c.v. and names and ad
of two referees to
Headmaster, (13457) 20

London

Under the auspices of the Royal Society, listed in excellent purpose-built facility. A few staff vacancies. Interviews will be held early in 1986.

Socialism and able to teach Muslim pupils.

List:

Middle-eastern pupils helpful.

Art Subsidiary helpful.

/Computers to lower

ham + 15% and Inner London
300 to £11600.
and details of 2 referees to Miss
Services, 6, 7 & 8 Sackville Street
R. Tel: 01-734 0161.

SURREY EDUCATION COMMITTEE BROOKLANDS TECHNICAL COLLEGE HEATH ROAD WEYBRIDGE SURREY

SCHOOL OF MANAGEMENT
PRINCIPAL LECTURER - TO ACT AS DEPUTY TO HEAD OF DEPARTMENT

Broad background in management studies and relevant industrial/teaching experience combined with management training/teaching essential. Degree or equivalent qualification required.

Experience of designing, marketing and managing self financing management programmes required. Will assist Head of Department in development of new programmes and contribute to teaching of major specialisms.

DEPARTMENT OF BUSINESS AND SECRETARIAL STUDIES
LECTURER (IA) - BUSINESS STUDIES/ACCOUNTING

To teach Accounting, Finance, Numeracy to BTEC National Diploma Level. Professional Courses and Post-Experience. Recent experience of business computing desirable. Graduate or equivalent professional qualifications required; relevant industrial experience and teacher training preferred.

LECTURER I - BUSINESS STUDIES
To teach Organisation in its Environment, Law, Selling, Marketing, Numeracy and/or World of Work up to BTEC National Diploma level.

DEPARTMENT OF CATERING, BAKERY AND DENTAL STUDIES
LECTURER I - BAKERY

To teach C&G 120/121 practical/theoretical aspects of bakery, cake design/decoration. Relevant experience/qualifications required.

LECTURER I - FOOD PRODUCTION
LECTURER I - CATERING ADMINISTRATION

To teach on BTEC National Diploma in Hotel Catering & Institutional Operations, full-time and part-time C&G 705 Craft Catering, General Catering, Adult Courses, Day release - C&G 706 and 120. Relevant qualifications and industrial experience required.

DEPARTMENT OF TECHNOLOGY
LECTURER II - ELECTRONICS

To teach Electronics/Micro-electronic options on HNC and related courses. Appropriate qualifications and experience required.

DEPARTMENT OF GENERAL EDUCATION AND SCIENCE
LECTURER I - GERMAN

To teach German to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF PRODUCTION AND MECHANICAL ENGINEERING
LECTURER I - AERONAUTICAL ENGINEERING

To teach Craft Studies courses. Relevant industrial experience and qualifications required.

LECTURER I - MOTOR VEHICLE ENGINEERING
One year temporary post to teach C&G and YTS courses. Relevant industrial experience and qualifications necessary.

Salary Scale
Principal Lecturer: £13,095-£14,580/£16,467 per annum
Lecturer II: £7,548-£12,089 per annum
Lecturer I: £5,910-£10,512 per annum
plus £284 per annum London Fringe Area Allowance.

Commencing salary dependent upon qualifications and experience.

Generous relocation expenses in approved cases.
Further details and application form from the Principal to be returned by MONDAY 1st JULY 1985. (16/18)

COLLEGES OF FURTHER EDUCATION

HERTFORDSHIRE

ST ALBANS COLLEGE
25 Hatfield Road, St Albans, Herts.
Tel: 60423

LECTURER I - ENGLISH
To teach English to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF BUSINESS AND SECRETARIAL STUDIES
LECTURER (IA) - BUSINESS STUDIES/ACCOUNTING

To teach Accounting, Finance, Numeracy to BTEC National Diploma Level. Professional Courses and Post-Experience. Recent experience of business computing desirable. Graduate or equivalent professional qualifications required; relevant industrial experience and teacher training preferred.

LECTURER I - BUSINESS STUDIES
To teach Organisation in its Environment, Law, Selling, Marketing, Numeracy and/or World of Work up to BTEC National Diploma level.

DEPARTMENT OF CATERING, BAKERY AND DENTAL STUDIES
LECTURER I - BAKERY

To teach C&G 120/121 practical/theoretical aspects of bakery, cake design/decoration. Relevant experience/qualifications required.

LECTURER I - FOOD PRODUCTION
LECTURER I - CATERING ADMINISTRATION

To teach on BTEC National Diploma in Hotel Catering & Institutional Operations, full-time and part-time C&G 705 Craft Catering, General Catering, Adult Courses, Day release - C&G 706 and 120. Relevant qualifications and industrial experience required.

DEPARTMENT OF TECHNOLOGY
LECTURER II - ELECTRONICS

To teach Electronics/Micro-electronic options on HNC and related courses. Appropriate qualifications and experience required.

DEPARTMENT OF GENERAL EDUCATION AND SCIENCE
LECTURER I - GERMAN

To teach German to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF PRODUCTION AND MECHANICAL ENGINEERING
LECTURER I - AERONAUTICAL ENGINEERING

To teach Craft Studies courses. Relevant industrial experience and qualifications required.

LECTURER I - MOTOR VEHICLE ENGINEERING
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Lecturer I: £5,910-£10,512 per annum
plus £284 per annum London Fringe Area Allowance.

Commencing salary dependent upon qualifications and experience.

Generous relocation expenses in approved cases.
Further details and application form from the Principal to be returned by MONDAY 1st JULY 1985. (16/18)

KENT

CITY COUNCIL

EDUCATION DEPARTMENT
COLLEGE

To teach English to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF BUSINESS AND SECRETARIAL STUDIES
LECTURER (IA) - BUSINESS STUDIES/ACCOUNTING

To teach Accounting, Finance, Numeracy to BTEC National Diploma Level. Professional Courses and Post-Experience. Recent experience of business computing desirable. Graduate or equivalent professional qualifications required; relevant industrial experience and teacher training preferred.

LECTURER I - BUSINESS STUDIES
To teach Organisation in its Environment, Law, Selling, Marketing, Numeracy and/or World of Work up to BTEC National Diploma level.

DEPARTMENT OF CATERING, BAKERY AND DENTAL STUDIES
LECTURER I - BAKERY

To teach C&G 120/121 practical/theoretical aspects of bakery, cake design/decoration. Relevant experience/qualifications required.

LECTURER I - FOOD PRODUCTION
LECTURER I - CATERING ADMINISTRATION

To teach on BTEC National Diploma in Hotel Catering & Institutional Operations, full-time and part-time C&G 705 Craft Catering, General Catering, Adult Courses, Day release - C&G 706 and 120. Relevant qualifications and industrial experience required.

DEPARTMENT OF TECHNOLOGY
LECTURER II - ELECTRONICS

To teach Electronics/Micro-electronic options on HNC and related courses. Appropriate qualifications and experience required.

DEPARTMENT OF GENERAL EDUCATION AND SCIENCE
LECTURER I - GERMAN

To teach German to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF PRODUCTION AND MECHANICAL ENGINEERING
LECTURER I - AERONAUTICAL ENGINEERING

To teach Craft Studies courses. Relevant industrial experience and qualifications required.

LECTURER I - MOTOR VEHICLE ENGINEERING
One year temporary post to teach C&G and YTS courses. Relevant industrial experience and qualifications necessary.

Salary Scale
Principal Lecturer: £13,095-£14,580/£16,467 per annum
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Lecturer I: £5,910-£10,512 per annum
plus £284 per annum London Fringe Area Allowance.

Commencing salary dependent upon qualifications and experience.

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KIRKLEES

METROPOLITAN COUNCIL

EDUCATION DEPARTMENT
COLLEGE

To teach English to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF BUSINESS AND SECRETARIAL STUDIES
LECTURER (IA) - BUSINESS STUDIES/ACCOUNTING

To teach Accounting, Finance, Numeracy to BTEC National Diploma Level. Professional Courses and Post-Experience. Recent experience of business computing desirable. Graduate or equivalent professional qualifications required; relevant industrial experience and teacher training preferred.

LECTURER I - BUSINESS STUDIES
To teach Organisation in its Environment, Law, Selling, Marketing, Numeracy and/or World of Work up to BTEC National Diploma level.

DEPARTMENT OF CATERING, BAKERY AND DENTAL STUDIES
LECTURER I - BAKERY

To teach C&G 120/121 practical/theoretical aspects of bakery, cake design/decoration. Relevant experience/qualifications required.

LECTURER I - FOOD PRODUCTION
LECTURER I - CATERING ADMINISTRATION

To teach on BTEC National Diploma in Hotel Catering & Institutional Operations, full-time and part-time C&G 705 Craft Catering, General Catering, Adult Courses, Day release - C&G 706 and 120. Relevant qualifications and industrial experience required.

DEPARTMENT OF TECHNOLOGY
LECTURER II - ELECTRONICS

To teach Electronics/Micro-electronic options on HNC and related courses. Appropriate qualifications and experience required.

DEPARTMENT OF GENERAL EDUCATION AND SCIENCE
LECTURER I - GERMAN

To teach German to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF PRODUCTION AND MECHANICAL ENGINEERING
LECTURER I - AERONAUTICAL ENGINEERING

To teach Craft Studies courses. Relevant industrial experience and qualifications required.

LECTURER I - MOTOR VEHICLE ENGINEERING
One year temporary post to teach C&G and YTS courses. Relevant industrial experience and qualifications necessary.

Salary Scale
Principal Lecturer: £13,095-£14,580/£16,467 per annum
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Lecturer I: £5,910-£10,512 per annum
plus £284 per annum London Fringe Area Allowance.

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Generous relocation expenses in approved cases.
Further details and application form from the Principal to be returned by MONDAY 1st JULY 1985. (16/18)

LANCASHIRE

CITY COUNCIL

EDUCATION DEPARTMENT
COLLEGE

To teach English to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF BUSINESS AND SECRETARIAL STUDIES
LECTURER (IA) - BUSINESS STUDIES/ACCOUNTING

To teach Accounting, Finance, Numeracy to BTEC National Diploma Level. Professional Courses and Post-Experience. Recent experience of business computing desirable. Graduate or equivalent professional qualifications required; relevant industrial experience and teacher training preferred.

LECTURER I - BUSINESS STUDIES
To teach Organisation in its Environment, Law, Selling, Marketing, Numeracy and/or World of Work up to BTEC National Diploma level.

DEPARTMENT OF CATERING, BAKERY AND DENTAL STUDIES
LECTURER I - BAKERY

To teach C&G 120/121 practical/theoretical aspects of bakery, cake design/decoration. Relevant experience/qualifications required.

LECTURER I - FOOD PRODUCTION
LECTURER I - CATERING ADMINISTRATION

To teach on BTEC National Diploma in Hotel Catering & Institutional Operations, full-time and part-time C&G 705 Craft Catering, General Catering, Adult Courses, Day release - C&G 706 and 120. Relevant qualifications and industrial experience required.

DEPARTMENT OF TECHNOLOGY
LECTURER II - ELECTRONICS

To teach Electronics/Micro-electronic options on HNC and related courses. Appropriate qualifications and experience required.

DEPARTMENT OF GENERAL EDUCATION AND SCIENCE
LECTURER I - GERMAN

To teach German to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF PRODUCTION AND MECHANICAL ENGINEERING
LECTURER I - AERONAUTICAL ENGINEERING

To teach Craft Studies courses. Relevant industrial experience and qualifications required.

LECTURER I - MOTOR VEHICLE ENGINEERING
One year temporary post to teach C&G and YTS courses. Relevant industrial experience and qualifications necessary.

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Lecturer I: £5,910-£10,512 per annum
plus £284 per annum London Fringe Area Allowance.

Commencing salary dependent upon qualifications and experience.

Generous relocation expenses in approved cases.
Further details and application form from the Principal to be returned by MONDAY 1st JULY 1985. (16/18)

Wiltshire

THE COLLEGE SWINDON

The following posts are available from 1 September 1985
DEPARTMENT OF ADULT STUDIES
Lecturer Grade I -

Adult Education Tutor Organisation
A tutor organisation required for Adult Education covering the Swindon Area of North Wilts. The tutor should have a minimum of 5 years' experience in adult education and be able to teach English to GCE 'A' level. The tutor should also have a minimum of 5 years' experience in adult education and be able to teach English to GCE 'A' level. The tutor should also have a minimum of 5 years' experience in adult education and be able to teach English to GCE 'A' level.

DEPARTMENT OF BUSINESS STUDIES
Lecturer Grade I in Business Studies
(Temporary for 1 year)

Required to teach at least two of the following: Numeracy and Accounting, Records, Law, Office Practice, World of Work, Keyworking and Word Processing, Navigation/Transportation, Distribution of Transport Studies on BTEC (General), BTEC National Diploma Business Studies and Social Studies on BTEC (General), BTEC National Diploma Business Studies and Social Studies on BTEC (General), BTEC National Diploma Business Studies and Social Studies on BTEC (General).

DEPARTMENT OF CATERING, BAKERY AND DENTAL STUDIES
Lecturer Grade II in Related Catering Studies
Applications are invited from suitably qualified persons for the above post. The successful candidate will be expected to teach Hotel Catering and Institutional Operations, Day Release, C&G 705 Craft Catering, General Catering, Adult Courses, Day Release - C&G 706 and 120. Relevant qualifications and industrial experience required.

DEPARTMENT OF SCIENCE & HUMANITIES
Lecturer Grade II in Science
Science to General and Foundation Levels. The successful candidate will be expected to teach Science to General and Foundation Levels. The successful candidate will be expected to teach Science to General and Foundation Levels. The successful candidate will be expected to teach Science to General and Foundation Levels.

DEPARTMENT OF TECHNOLOGY
Lecturer Grade I in Electrical and Electronic Engineering
The successful candidate will be expected to teach Electrical and Electronic Engineering to General and Foundation Levels. The successful candidate will be expected to teach Electrical and Electronic Engineering to General and Foundation Levels. The successful candidate will be expected to teach Electrical and Electronic Engineering to General and Foundation Levels.

CPVE POSTS
Lecturer Grade I Temporary 1 Year Contracts (4 Posts)
Four lecturers are required to teach CPVE Core Skills in the following areas: Art, Craft, Design, Community Care, Distribution, Signs and Notices. All applicants will be required to teach CPVE Core Skills in the following areas: Art, Craft, Design, Community Care, Distribution, Signs and Notices. All applicants will be required to teach CPVE Core Skills in the following areas: Art, Craft, Design, Community Care, Distribution, Signs and Notices.

LANCASHIRE
CITY COUNCIL
EDUCATION DEPARTMENT
COLLEGE

To teach English to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF BUSINESS AND SECRETARIAL STUDIES
LECTURER (IA) - BUSINESS STUDIES/ACCOUNTING

To teach Accounting, Finance, Numeracy to BTEC National Diploma Level. Professional Courses and Post-Experience. Recent experience of business computing desirable. Graduate or equivalent professional qualifications required; relevant industrial experience and teacher training preferred.

LECTURER I - BUSINESS STUDIES
To teach Organisation in its Environment, Law, Selling, Marketing, Numeracy and/or World of Work up to BTEC National Diploma level.

DEPARTMENT OF CATERING, BAKERY AND DENTAL STUDIES
LECTURER I - BAKERY

To teach C&G 120/121 practical/theoretical aspects of bakery, cake design/decoration. Relevant experience/qualifications required.

LECTURER I - FOOD PRODUCTION
LECTURER I - CATERING ADMINISTRATION

To teach on BTEC National Diploma in Hotel Catering & Institutional Operations, full-time and part-time C&G 705 Craft Catering, General Catering, Adult Courses, Day release - C&G 706 and 120. Relevant qualifications and industrial experience required.

DEPARTMENT OF TECHNOLOGY
LECTURER II - ELECTRONICS

To teach Electronics/Micro-electronic options on HNC and related courses. Appropriate qualifications and experience required.

DEPARTMENT OF GENERAL EDUCATION AND SCIENCE
LECTURER I - GERMAN

To teach German to GCE 'A' level. Appropriate qualifications/experience required. Must offer second language with ability to teach French to GCE 'A' level and experience of vocational language provision preferred.

DEPARTMENT OF PRODUCTION AND MECHANICAL ENGINEERING
LECTURER I - AERONAUTICAL ENGINEERING

To teach Craft Studies courses. Relevant industrial experience and qualifications required.

LECTURER I - MOTOR VEHICLE ENGINEERING
One year temporary post to teach C&G and YTS courses. Relevant industrial experience and qualifications necessary.

Salary Scale
Principal Lecturer: £13,095-£14,580/£16,467 per annum
Lecturer II: £7,548-£12,089 per annum
Lecturer I: £5,910-£10,512 per annum
plus £284 per annum London Fringe Area Allowance.

Commencing salary dependent upon qualifications and experience.

Generous relocation expenses in approved cases.
Further details and application form from the Principal to be returned by MONDAY 1st JULY 1985. (16/18)

Surrey Education Committee

GUILDFORD COLLEGE OF TECHNOLOGY

Stoke Park, Guildford, Surrey GU1 1EZ
Hotel and Catering Department

Temporary Full-Time Lecturer I in Hairdressing

One Year Appointment from 1.9.1985 - 31.8.1986. The successful candidate is expected to have strong industrial experience in hairdressing, and preferably be between 25-30 years of age. Candidates should be able to demonstrate a combination of creative flair and technical know-how, and the ability and enthusiasm to impart this to students on full-time, day-release and YTS courses. Knowledge of wigmaking, make-up and manicure would be useful. A teaching qualification would be advantageous. (Post Ref: HC/HD/11)

Salary Lecturer I scale
£5,910 - £10,512
plus £284 fringe area allowance
(Salaries under review from 1 April 1985)

Application forms and further details from Principal (SAE requested - quote Post Reference)

Closing Date: Monday 1st July 1985.
(Re-Advertisement)

WALTHAM FOREST COLLEGE FOR FURTHER & HIGHER EDUCATION
DEPARTMENT OF GENERAL EDUCATION
Vacancies from 1 September 1985.

Lecturer Grade II

to be responsible for curricular co-ordination and staff development and leadership especially in connection with new Government initiatives in further education and training. A sound understanding of the educational implications of core area skills and the latest developments in General Studies and Communications will be essential.

Temporary Lecturer Grade I
In core area skills/communications/general studies. Applicants will be expected to teach in MSC and CPVE courses and must be knowledgeable about and committed to subject integration.
Salary: £1 - £2888 to £1180 inclusive
according to age and experience.

Application forms from the College Personnel Services Officer, Waltham Forest College, Forest Road, Walthamstow, London E17 4JB. Please state which post(s) you are applying for. Tel: 01-527 2311 Ex. 259.
Closing date July 5th 1985. (16/18)

COLLEGES OF FURTHER EDUCATION

LEICESTERSHIRE
COUNTY COUNCIL
AN EQUAL OPPORTUNITIES EMPLOYER

WIGSTON COLLEGE OF FURTHER EDUCATION
Wigston Road, Wigston, Leicestershire LE18 2JY

DEPARTMENT OF BUSINESS STUDIES
Lecturer Grade I in Business Studies
(Temporary for 1 year)

Required to teach at least two of the following: Numeracy and Accounting, Records, Law, Office Practice, World of Work, Keyworking and Word Processing, Navigation/Transportation, Distribution of Transport Studies on BTEC (General), BTEC National Diploma Business Studies and Social Studies on BTEC (General), BTEC National Diploma Business Studies and Social Studies on BTEC (General), BTEC National Diploma Business Studies and Social Studies on BTEC (General).

DEPARTMENT OF CATERING, BAKERY AND DENTAL STUDIES
Lecturer Grade II in Related Catering Studies
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DEPARTMENT OF SCIENCE & HUMANITIES
Lecturer Grade II in Science
Science to General and Foundation Levels. The successful candidate will be expected to teach Science to General and Foundation Levels. The successful candidate will be expected to teach Science to General and Foundation Levels. The successful candidate will be expected to teach Science to General and Foundation Levels.

DEPARTMENT OF TECHNOLOGY
Lecturer Grade I in Electrical and Electronic Engineering
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Lecturer Grade I Temporary 1 Year Contracts (4 Posts)
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LEICESTERSHIRE
COUNTY COUNCIL
AN EQUAL OPPORTUNITIES EMPLOYER

WIGSTON COLLEGE OF FURTHER EDUCATION
Wigston Road, Wigston, Leicestershire LE18 2JY

DEPARTMENT OF BUSINESS STUDIES
Lecturer Grade I in Business Studies
(Temporary for 1 year)

Required to teach at least two of the following: Numeracy and Accounting, Records, Law, Office Practice, World of Work, Keyworking and Word Processing, Navigation/Transportation, Distribution of Transport Studies on BTEC (General), BTEC National Diploma Business Studies and Social Studies on BTEC (General), BTEC National Diploma Business Studies and Social Studies on BTEC (General), BTEC National Diploma Business Studies and Social Studies on BTEC (General).

Polytechnics

Other Appointments

BUDDERSFIELD POLYTECHNIC
DEPARTMENT OF EDUCATION
TECHNOLOGY
Applications are invited for the above post as a Lecturer in Technology. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

MIDDLESEX POLYTECHNIC
SCHOOL OF EDUCATION
TECHNOLOGY
Applications are invited for the above post as a Lecturer in Technology. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

University Appointments

CAMBRIDGE

UNIVERSITY OF CAMBRIDGE
ASSISTANT LECTURER IN ARCHAEOLOGY
Applications are invited for the above post as an Assistant Lecturer in Archaeology. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

Principal Lecturer and Head of Mathematics & Computing Department

Applications are invited for the above post to take effect from 1 January 1986. Salary: £13,095-£16,467 p.a. The college has over 1000 f.f.e. students and offers BA, BEd, BSc, MA, MPhil/PhD degrees, certificate and short courses. For further details write to Mrs. Jean Long, Personal Assistant to the Principal, enclosing a stamped addressed envelope, to whom applications should be sent not later than 8 July.

BRISTOL

UNIVERSITY OF BRISTOL
UNDERGRADUATE ADMISSIONS OFFICER

Applications are invited for the above post as an Undergraduate Admissions Officer. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

LEEDS UNIVERSITY
SCHOOL OF EDUCATION
TECHNOLOGY
Applications are invited for the above post as a Lecturer in Technology. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

LOUGHBOROUGH

LOUGHBOROUGH UNIVERSITY
TECHNOLOGY
Applications are invited for the above post as a Lecturer in Technology. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

WARWICK

UNIVERSITY OF WARWICK
TECHNOLOGY
Applications are invited for the above post as a Lecturer in Technology. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

WARWICK

UNIVERSITY OF WARWICK
LECTURERSHIP IN PRIMARY EDUCATION

Applications are invited for the above post as a Lecturer in Primary Education. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

LEEDS UNIVERSITY
SCHOOL OF EDUCATION
TECHNOLOGY
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Colleges of Higher Education

Other Appointments

BUCKINGHAMSHIRE
Applications are invited for the above post as a Lecturer in Primary Education. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

LEEDS UNIVERSITY
SCHOOL OF EDUCATION
TECHNOLOGY
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Fellowships, Studentships and Research Awards

HUMBERSIDE

HUMBERSIDE COLLEGE
TEACHER FELLOWSHIP IN CURRICULUM
Applications are invited for the above post as a Teacher Fellowship in Curriculum. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

Colleges of Education with Teacher Training

Other Appointments

CLEVELAND
Applications are invited for the above post as a Lecturer in Primary Education. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

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HUMBERSIDE COLLEGE
TEACHER FELLOWSHIP IN CURRICULUM
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Adult Education

Other Appointments

LONDON
Applications are invited for the above post as a Lecturer in Primary Education. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

LEEDS UNIVERSITY
SCHOOL OF EDUCATION
TECHNOLOGY
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Fellowships, Studentships and Research Awards

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FURTHER EDUCATION DIVISION
HARINGEY YOUTH & COMMUNITY SERVICES
ASSISTANT YOUTH WORKER (DEPUTY)
AT THE HARRINGEY CLUB

Salary Scale JNC 3 (1-5) £8,804 - £9,882 (inclusive of London Weighting). Qualified, experienced Youth & Community Worker required for this large multi-racial voluntary centre, with an established team of full and part-time workers, instructors, caretaker and secretarial assistant. The successful candidate will need to demonstrate a clear understanding of and commitment to equal opportunity issues and to participate in an exciting successful project designed to meet the needs of girls and young women.

DETACHED YOUTH WORKER

Salary Scale JNC 4 (1-5) £10,125 - £11,247 (inclusive of London Weighting). Appropriately experienced, qualified Detached Youth & Community Worker required to join team of four including the Co-ordinator, in order to give renewed direction to work with identified groups of young people, who for one reason or the other do not use established youth work provision. Candidates will be expected to demonstrate that they have the skills to work with alienated young people, including Asians, Greek and Turkish Cypriots and black females — and that they have a deep understanding of their needs and aspirations. The Youth Service is very anxious to fulfil its belief that it should fully reflect the Community and will welcome applicants from ethnic minority groups and, especially, women and bilingual speakers (in an appropriate language) from these groups. For informal discussion ring Section Youth Officer, Mr. Mike Bates, 01 881 3000 Ext. 3108.

Haringey

Haringey is an equal opportunity employer. We welcome your application which will be considered on merit, irrespective of race, marital status, sex or any disability you may have.

PENYGRAIG COMMUNITY PROJECT
Charity No. 518007

PROJECT LEADER SO2 £10,404 - £11,025
PROJECT WORKERS (3) SW 2/3 £7,746 - £9,144

"MISKIN ALTERNATIVE TO CARE OR CUSTODY"

A Project funded by the Welsh Office to explore new and exciting ways of working with young people in their own communities as alternatives to removal from home. The team of four plus administrative assistant will be responsible for establishing the scheme and developing a strategy in conjunction with the appropriate statutory agencies.

Applicants should hold a CQSW or a Diploma in Youth and Community Work or other relevant qualification and experience. Job sharing will be considered. For further information and application forms please send an a.s. to Ms Margaret Jarvis, Penygraig Community Project, 1 Crose Street, Penygraig, Rhondda, Mid Glamorgan, Tel. Tonypandy (0443) 438770. Closing Date for applications Friday 12th July.

HAMPSHIRE
PORTSMOUTH INSTITUTE - Youth Community Service

Area Youth and Community Worker, Portsea

JNC 4E (6-8) £10,209 - £11,382 (Pay award pending). Applications are invited from qualified and experienced youth and community workers, for this new post in the Portsea area of Portsmouth. The job involves support and development of the Portsea Youth and Community Centre, an area role with young people in the neighbourhood, and a liaison/training brief with other agencies in Portsea. Candidates will have proven skills in centre-based and detached youth work and experience in staff development and training. For informal discussion, phone Tim Caley, Youth and Community Co-ordinator, (0706) 815411 Ext. 83. Further details and application forms: Portsmouth Institute, Area Education Office, Guildhall Square, Portsmouth PO1 2BJ. CLOSING DATE: 8th July 1985.

Northamptonshire Education

Applications are invited for the above post as a Lecturer in Primary Education. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

ADULT EDUCATION

HERTFORDSHIRE
CASBIO COLLEGE

Applications are invited for the above post as a Lecturer in Primary Education. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

RICHMOND UPON THAMES

LONDON BOROUGH OF RICHMOND UPON THAMES
Applications are invited for the above post as a Lecturer in Primary Education. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

COVENTRY

COMMUNITY EDUCATION
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Youth and Community Service

Other Appointments

CLWYD COUNTY COUNCIL
EDUCATION DEPARTMENT
Applications are invited for the above post as a Lecturer in Primary Education. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course. The successful candidate will be responsible for the delivery of the course and will also be responsible for the development of the course.

DETACHED YOUTH WORKER

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Haringey

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Northamptonshire Education

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Inner London Education Authority

Youth Workers

JNC Salaries and conditions. Salary scales including London allowance. Scale 2 £7,395 - £9,141. Scale 3 £9,141 - £10,889. Scale 4 £10,889 - £12,637. Unqualified: £6,855 - £7,794. Assignment may be given towards house-hold expenses. Tel: 761 6559. Appointments will be to the service of the Authority, with secondment for post 1, 3, 5, 6 and 8. Closing date for all posts 5 July 1985.

DETACHED YOUTH WORKER

Salary Scale JNC 4 (1-5) £10,125 - £11,247 (inclusive of London Weighting). Appropriately experienced, qualified Detached Youth & Community Worker required to join team of four including the Co-ordinator, in order to give renewed direction to work with identified groups of young people, who for one reason or the other do not use established youth work provision. Candidates will be expected to demonstrate that they have the skills to work with alienated young people, including Asians, Greek and Turkish Cypriots and black females — and that they have a deep understanding of their needs and aspirations. The Youth Service is very anxious to fulfil its belief that it should fully reflect the Community and will welcome applicants from ethnic minority groups and, especially, women and bilingual speakers (in an appropriate language) from these groups. For informal discussion ring Section Youth Officer, Mr. Mike Bates, 01 881 3000 Ext. 3108.

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YOUTH & COMMUNITY

LONDON
DOCKLAND SETTLEMENT
 The Dockland Settlement at the heart of London is seeking a Residential Warden. The post requires both in Youth and Community work and in the day to day running of the Settlement. The successful candidate must be able to motivate, initiate and inspire to develop the activities to meet the needs of the community. The Settlement is located in an area where considerable regeneration is taking place and the future is viewed with optimism. The salary will be in accordance with experience. Applications should be made to: Mr. J. E. Clark, Secretary, Dockland Settlement, 140-142, East Ferry Road, London E14 3AB (19311) 440000

LONDON
YOUTH AND COMMUNITY WORKER
 LONDON CENTRAL YMCA 112 Great Russell St., London WC1B 3BG
 Applications are invited for the post of DEPUTY GROUP DIRECTOR, Youth and Community Programme and Service. Applicants should possess a qualification in Youth and Community Work, or in Teaching, and have the ability to identify and develop opportunities to respond to community needs. The post is to the service of London Central YMCA and is 100% grant aided by the ILCA. Salary: £12,000 p.a.
 Applications in the first instance should be made to: R.B. Cullum, Executive Director of the above address. The YMCA is an equal opportunity employer. 440000

NORTH YORKSHIRE COUNTY COUNCIL
 COUNTY YOUTH SERVICE (198-advertisement)
 Applications are invited from qualified teachers for the post of Youth Tutor, Burnham School, at Burnham, North Yorkshire. The post is available from September 1985 or as soon as possible thereafter. Applicants should be able to carry out the duties of a Youth Tutor, and have a minimum of 5 years' experience in the post. The successful candidate will be responsible for the day to day running of the Youth Tutor, and for the day to day running of the Youth Tutor. The post is available from September 1985 or as soon as possible thereafter. Applications should be made to: Mr. J. E. Clark, Secretary, Dockland Settlement, 140-142, East Ferry Road, London E14 3AB (19311) 440000

NORWICH
 Experienced Youth Worker required for the Brickland Community Centre in the Diocese of Norwich. Applications should be made to: Mr. J. E. Clark, Secretary, Dockland Settlement, 140-142, East Ferry Road, London E14 3AB (19311) 440000

OXFORDSHIRE COUNTY COUNCIL
 WOODSTOCK AND DISTRICT COMMUNITY EDUCATION DEPARTMENT
 HEAD OF COMMUNITY EDUCATION - BURNHAM
 P.E. LEICESTER, 112, 0199
 Required for 1st September 1985, for an area of 1000 pupils. The post is to the service of the Burnham Community Education Department. The successful candidate will be responsible for the day to day running of the Youth Tutor, and for the day to day running of the Youth Tutor. The post is available from September 1985 or as soon as possible thereafter. Applications should be made to: Mr. J. E. Clark, Secretary, Dockland Settlement, 140-142, East Ferry Road, London E14 3AB (19311) 440000

SULTANATE OF OMAN

Ministry of Defence (Engineering Division)

The Ministry of Defence Engineering Division is responsible for the construction and maintenance of military establishments throughout the Sultanate and comprises some 5,000 personnel. The Division has established training centres to meet 'In Service' and 'In Service' civilian training needs and has vacancies for:

A Mathematics/Physics Teacher

£18,500 p.a. approx. Ref No. 117E
 To conduct classes of locally engaged apprentice technicians in mathematics and physics and to prepare others for entry into Colleges in the UK and elsewhere.

An English Language Teacher

£18,500 p.a. approx. Ref No. 117C
 To conduct courses of the Centres and other units, teaching will be from non-alphabet beginners level to that of preparation for Cambridge First Certificate. The successful applicant will also be expected to develop text books for use by the students.

Applicants must be qualified graduate teachers with at least two years post graduate teaching experience up to 'O' level standard. They must hold a current UK driving licence. The English Language Teacher must possess a TEFL qualification and have taught English as a foreign language for at least five years.

Age limit 50.
 These are renewable, paid civilian contract appointments for two years with the possibility of renewal. Salary in Omani Rials is quoted at the current rate of exchange and there is an end-of-contract gratuity of 20% of total pay received; pay and gratuity are normally tax-free and fully remittable. Furnished air conditioned accommodation and transport are provided free of charge and three periods of 20 days UK leave are granted annually with air passages paid. Interested applicants should write with C.V. and quote the relevant reference number to:

Personal Officer (M.R.),
 Airwork Limited,
 Bournemouth-Hum Airport,
 Christchurch, Dorset BH23 6EB.



Airwork
 Limited
 (RECRUITMENT CONSULTANTS)

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Teacher of Spanish Falkland Islands

As part of its aim to broaden the local school syllabus the Falkland Islands Government intends to reintroduce the teaching of Spanish both to senior primary and secondary pupils. The appointment will be required to teach up to GCE 'O' level and to develop a CSE syllabus. This post will provide an interesting opportunity for an adventurous teacher of any age seeking a fresh challenge. Applicants should be British Citizens with a degree in Spanish and a teaching certificate.

The appointment is on contract to the Government of the Falkland Islands for one year of either two or three years. Local salary is in the range £4,824 to £5,684 p.a. plus a tax free supplement payable by ODA in the range £3,890 to £7,830 dependent on experience and marital status. A terminal gratuity of 18% of local salary is also payable on satisfactory completion of contract. Other benefits include free passage and children's education allowances.

Applications will be accepted up to 12th July 1985 and interviews will be held early August 1985.

For full details and application form, please apply, quoting ref. AH387/GH TES, giving details of age, qualifications and experience to: Appointments Office, Overseas Development Administration, Room 3B, Abercrombie House, Eagleham Road, EAST KILMARIE, Glasgow G75 8EA.



Britain helping nations to help themselves

RIYADH SCHOOLS SAUDI ARABIA E.F.L. Teachers

Private school in Saudi Arabia invites applications from qualified male and female teachers, to teach English to non native speakers aged 4-18.

Applicants should be native English speakers with relevant experience.

Contracts are for one year, and renewable. Benefits include, tax free salaries, free furnished accommodation, paid annual leave, and round trip tickets for incumbent and family.

Applications (including a day time telephone number) should be sent together with two passport-size photographs, to:

Riyadh Schools,
 c/o Saudi Arabian Educational Office,
 29 Belgrave Square,
 London SW1X 0BB.

(No telephone calls)
 Interviews will be held between 24 June and 19 July, and only successful candidates will be notified.

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OVERSEAS POSTS

DUBAI
THE AL ITTIHAD PRIVATE SCHOOL
 Has vacancies for Sept. 1985 for single status ENGLISH Medium and Arabic Medium Middle School and Primary Maths teacher. (Couple considered).
 Please send CV & 4x6 in. photo to: The Al Ittihad School, P.O. Box 10380, Dubai, U.A.E. (193574) 460000

EGYPT
 Cairo, Egypt. English medium school seeks teachers Nursery to G.C.E. 'O' Level starting September. Return tickets and local salary.
 Send C.V. to Box No. TES 00402, Priory House, 81 John Lane, EC1M 4BE (193505) 460000

GRAND CANARY
BRITISH SCHOOL
 Grand Canary, Canary Islands (Age 200 in full)
 Required for September a teacher of French and German to G level. 2 year contract. Salary paid. Salary, gratuity, insurance etc.
 Full C.V., photograph, telephone number, names of 2 referees to: The British School, C/O. 21 Colchester Road, Ipswich, Suffolk. 460000

GREECE
 We seek EFL teachers for our private school in Greece. Apply to: C.V. to: 20 Boissière St. GH 1555 Athens, Greece. Include C.V., passport photo, tel. number. (12794) 460000

GREECE
 Teaching International School seeking candidates for two positions: History/Modern European and 'A' Level and 'O' Level Geography. GCSE required. French and Spanish.
 Send curriculum vitae to: Tania Hellenic International School, P.O. Box 51025, 145 10 Kifissia, Athens. 460000 (193886)

JORDAN
 Medium School teacher needed for children of Jordanian family, boy 11 girl 5 living in Amman college. For full details and background, experience and references necessary - French helpful.
 Please write with full details and tel. no. to: Mrs. J. Muesher, Flat 10, 52 Post Street, London SW1 9J. Applicants will be interviewed in London between 27 June and 10 July. No appointment. (193505) 460000

KENYA
PHYSICS TUTOR
 Single and under 35, preferably with a degree in Physics, no other duties; small private college; 10 mins Nairobi; car loan; photo 3 written refs; box 14914. Tel: (STD) 011/14914 Nairobi. 460000 (193840)

PORTUGAL
ASSOCIACAO LUSO-BRITANICA DO PORTO
 Institute Britânico
 Requires EFL staff to teach adults English at 3 levels up to CPE. Would suit single and married teaching couples, no children.
 Qualifications: degree or teaching qualification; EFL training and experience.
 Duties: 22 teaching hours per week plus maintenance with travel etc. Salary: 980 thousand to 1275 thousand Portuguese escudos total per year.
 Benefits: Airfare, medical scheme, use of car, free furnished apartments.
 Contract: 2 years renewable by mutual consent.
 Closing date: 31.07.1985.
 Apply in writing a.s.a.p. with C.V., address and telephone number to: Associação Lusobritânica do Porto, Rua do Bragança, 1000-000 Oporto, Portugal. (193886)

PORTUGAL
OPORTO
 MATHEMATICS TEACHER
 For age 8-14 required September 1985 Oporto British School. Full details and background, experience and references necessary - French helpful.
 Please write with full details and tel. no. to: Mrs. J. Muesher, Flat 10, 52 Post Street, London SW1 9J. Applicants will be interviewed in London between 27 June and 10 July. No appointment. (193505) 460000

QUITO
EQUADOR
 Teachers required for British Council School, RSA Diploma and Certificate, 10 years experience essential. Full contracts starting Sept. 1985.
 Full C.V. and photo to: Teacher Selection Department, British Council, 106 Piccadilly, London W1V 9PL. (119440) 460000

THE ENGLISH SCHOOLS FOUNDATION HONG KONG
ISLAND SCHOOL
 Co-Educational
 1121 Pupils on Roll

Teacher of Physics

A teacher of physics is required either from September 1986 or from January 1987.

The ideal candidate will have experience of teaching physics from mixed ability third form to University entrance and will be able to contribute to the teaching of junior combined science. An interest in teaching photography, which is well established as an examination subject, would be an advantage. The appointment will be on Scale 1.

Applications including a full C.V. and letter of application should be sent to the Principal, Mr C. H. R. Niven, c/o 52 Lock Chase, Blackheath, London SE3 by 5 July 1985.

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KENYA

GREENACRES SCHOOL
 Nairobi, Kenya
 Have a vacancy for a Physics up to 'O' level standard and lower school General Science teacher. Details: V. Kapur, Greenacres School, P.O. Box 10380, Nairobi, Kenya. (193574) 460000

ISTANBUL
 Teachers with full teaching diplomas for English, Science and Maths at modern private secondary school for 1985/86.
 For personal interviews: Miss F. Alangu, c/o 01-629 8046 between 10.00 - 14.00 from 8th to 11th July 1985 or Mr. B. Kaya on 01-803 1788 evenings.
 Write applications with C.V., conditions and photo to: Miss F. Alangu, Kultur Kofli, Siminoyer, Istanbul, Turkey. (15327) 460000

MALAWI
ST ANDREW'S SECONDARY SCHOOL
 Blantyre, Malawi
 DEPUTY HEADMASTER
 Applications are invited from suitably qualified persons for the post of Deputy Headmaster of the above co-educational boarding school with 600 pupils, 11-18 years, in Malawi. The school has a reputation for high standards of education and a strong tradition of sports and cultural activities.
 The post is being re-advertised and is now vacant. Previous applicants need not re-apply.
 Position includes accommodation, return air passage, 3-year contract with gratuity and pension up to 25% of salary. Salary: local salary minimum 15,000 zloties per month plus sterling subsidy \$5,080 per annum (\$1-1732 approximately).
 Benefits: free furnished accommodation, superannuation contribution, baggage allowance and return fares.
 Contract: one year renewable local contract, guaranteed by the British Council, starting 1 October 1985.
 Closing date: 3 July 1985.
 Reference: 85 B 48-477

PORTUGAL
ASSOCIACAO LUSO-BRITANICA DO PORTO
 Institute Britânico
 Requires EFL staff to teach adults English at 3 levels up to CPE. Would suit single and married teaching couples, no children.
 Qualifications: degree or teaching qualification; EFL training and experience.
 Duties: 22 teaching hours per week plus maintenance with travel etc. Salary: 980 thousand to 1275 thousand Portuguese escudos total per year.
 Benefits: Airfare, medical scheme, use of car, free furnished apartments.
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 Full C.V. and photo to: Teacher Selection Department, British Council, 106 Piccadilly, London W1V 9PL. (119440) 460000

PAPUA NEW GUINEA
INTERNATIONAL EDUCATION AGENCY
TEACHING POSITIONS 1986

Applications are invited from suitably qualified teachers for positions in International Curriculum Primary and High Schools in Papua New Guinea to commence late January 1986.

In High schools, teaching positions exist in all subjects. Senior positions available in computer studies in high school with 14 BBC computers connected by Econet.

Conditions of service include 3 year contracts, gratuity, leave fares and educational allowance.

Salary range K10,680 - K19,280 P.A. (Exchange rate K1 = UK.77)

Short listed applicants will be interviewed in London.

Applications to: Education Secretary, International Education Agency, P.O. Box 6974, Boroko, Papua New Guinea. Telephone: 263814 (BH), 288381 (AH). Tlx: NE23082.

Applications close 12th July 1985.

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Posts Overseas

Poland

Post 1: Deputy Director, English Language Studium, Gdansk University

Post 2: Deputy Director, English Language Studium, Jagellonian University, Krakow

Duties: responsibility under the Director for teaching EFL to academic staff (from intermediate to CPE) both within the University and on residential courses, including course co-ordination, resources and materials selection; teacher training; supervision of PCE/CPE examinations.

Qualifications: candidates, preferably single and aged 25-45, should have a degree, preferably in English or Modern Languages, Diploma/MA in TEFL and/or RSA Diploma in TEFL and 3-5 years' previous TEFL to adults experience, with some teacher training.

Salary: local salary minimum 15,000 zloties per month plus sterling subsidy \$5,080 per annum (\$1-1732 approximately).

Benefits: free furnished accommodation, superannuation contribution, baggage allowance and return fares.

Contract: one year renewable local contract, guaranteed by the British Council, starting 1 October 1985.

Closing date: 3 July 1985.

Administration General

LONDON

RE-ADVERTISEMENT
DIOCESE OF LONDON
BOARD FOR SCHOOLS
ADVISED FOR PRIMARY
AND MIDDLE SCHOOLS

This post will be vacant in January 1986 following the retirement of the Reverend E. B. Toole in December 1985. Applications are invited from suitably qualified and experienced clergy and lay persons; the salary to be of the Central Board of Finance 120 level, on a scale currently at £19,136-£23,565 p.a., including London weighting, with the alternative of a standard stipend plus house for clergy.

Further particulars from The Director, London Diocesan Board for Schools, 30 Canaan Street, London SW10 4AU, to whom completed applications forms should be submitted by July 31 1985. (09537) 50000

LONDON

ROYAL COLLEGE OF MUSIC
JUNIOR DEPARTMENT
ADMINISTRATIVE ASSISTANT

Required for September 1985.

This is a full-time salaried post. A successful applicant will be expected to assist in the running of the Junior Department and to have reference to the organization of the Junior Department and the music library.

A sound knowledge of office skills and a musical background are desirable.

Salary: £9,780.00-£10,362.00 p.a. under review.

Further details from Director, Junior Department, Royal College of Music, Prince Consort Road, London SW7 2BS. Tel: 01-589 3643, Ext. 18.

Closing date for applications: 8th July 1985. (09132) 50000

Educational Psychologists

CHESTER

COUNTY COUNCIL
EAST-CHESHIRE PART-TIME
EDUCATIONAL PSYCHOLOGIST

The post-holder's absence on maternity leave is available from 1st September 1985. The successful candidate will be a qualified Educational Psychologist, with a minimum of 3 years' experience in the field of Educational Psychology. The salary is £12,336 in accordance with the County of Cheshire pay scale for 1985.

Further particulars from the Director of Education, Cheshire County Council, Chester City Hall, Chester CH1 1PS. Tel: 01244 602329. Closing date: 10th July 1985. (09537) 50000

NORTH WESTERN REGIONAL

ADVISORY COUNCIL FOR
FURTHER EDUCATION
INCORPORATING THE
UNION OF LANCASHIRE AND
CHESHIRE TEACHERS

Applications are invited for the appointment of an Assistant Secretary (Administration). The successful candidate should have an honours degree for an equivalent qualification and have experience in teaching or educational administration. The salary is £12,336 in accordance with the County of Cheshire pay scale for 1985.

Further particulars from the Director of Education, Cheshire County Council, Chester City Hall, Chester CH1 1PS. Tel: 01244 602329. Closing date: 10th July 1985. (09537) 50000

Suffolk College of Higher and Further Education

ADMINISTRATIVE OFFICER

Post No. CC.66
Required as Section Leader for the Student Administration Section of the College.

Salary Scale 5/6 - £7,524 - £9,114 per annum according to age, qualifications and experience.

Applicants should have an interest in computer applications. Minimum 21 days' holiday per year, plus bank holidays. Sickness and superannuation schemes. This post is subject to NJC Conditions of Service for Local Authorities.

For further details and application form, please send s.a.s. to the Chief Administrative Officer, Suffolk College, Ropa Walk, Ipswich IP4 1LT to whom completed forms should be returned. Please quote Post Number CC.66.

Closing date: 1st July 1985.

(18068) 50000

Suffolk County Council

For written details in the first instance, please write to: The Principal, Lancashire County Council, 1st Floor, 100, Victoria Road, Manchester M1 2JL. Tel: 061-275 6789, quote ref. JB/EDU. (09441) 50000

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Closing date: 1st July 1985.

(18068) 50000

Suffolk County Council

BRENT

LONDON BOROUGH OF BRENT
EDUCATION COMMITTEE
Block person for Spouse/Child to a Professional Course in Educational Psychology

In order to improve opportunities for access to work and to provide facilities for training in Educational Psychology, the Education Committee has decided to appoint a Block person for Spouse/Child to a Professional Course in Educational Psychology.

Candidates must have a degree in psychology acceptable to the H.E.S. teachers training and a minimum of 2 years' teaching experience. Applicants should be prepared to accept a full-time course of study for a minimum of 2 years, not including future employment by Brent. Posts are advertised nationally as vacancies for career and application for these should be made in the initial way.

The successful applicant's contract will be for a minimum of 2 years, not including future employment by Brent. Posts are advertised nationally as vacancies for career and application for these should be made in the initial way.

Applications for sponsorship should be made by letter with C.V. to: The Director of Education, Brent Council, Brent Town Hall, Brentford, London W8 3NS. Tel: 01-899 3643, Ext. 18. Closing date: 31st July 1985. (15366) 50000

WAKEFIELD

CITY OF WAKEFIELD
METROPOLITAN DISTRICT COUNCIL
EDUCATION DEPARTMENT
SCHOOL PSYCHOLOGICAL SERVICE

The post-holder's absence on maternity leave is available from 1st September 1985. The successful candidate will be a qualified Educational Psychologist, with a minimum of 3 years' experience in the field of Educational Psychology. The salary is £12,336 in accordance with the County of Cheshire pay scale for 1985.

Further particulars from the Director of Education, Cheshire County Council, Chester City Hall, Chester CH1 1PS. Tel: 01244 602329. Closing date: 10th July 1985. (09537) 50000

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(18068) 50000

Suffolk County Council

THE ROYAL SOCIETY OF ARTS

8 John Adam Street, London WC2N 6EJ
LAW AND PUBLIC ADMINISTRATION STAGE II

Examiners are required for the following subjects: Criminal Law, Land Personality and Local Government. Candidates are required to have a degree in law and a minimum of 2 years' teaching experience. Applicants should be prepared to accept a full-time course of study for a minimum of 2 years, not including future employment by Brent. Posts are advertised nationally as vacancies for career and application for these should be made in the initial way.

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Closing date: 1st July 1985.

(18068) 50000

Suffolk County Council

English as a Second Language

BEDFORDSHIRE

SOUTHERN AREA

PENBILLY HIGH SCHOOL

Alexandra Avenue, Luton.

Tel: (0525) 36611.

Required for 1.9.85 a teacher to assist in a Language Unit to support multi stream classes with children recently arrived in this country. Knowledge of language development/resources based materials an advantage. Scale 1.

Application forms and further particulars obtainable from the Head at the School, see above.

Closing date: 3.7.85. (15505)

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BUCKINGHAMSHIRE

COUNTY COUNCIL

WYCOMBE AREA

Equal Opportunity Employer

COMBINED SCHOOL

WYCOMBE, Bucks. HP13 6SX

Tel: (0494) 54444

1985-86 for September

Scale 1 teacher for the

teaching of English to

second language to

children. This is a

year temporary post

Application forms and

further details available from

the Head at the school, see

above. Closing date: 3.7.85.

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HERTFORDSHIRE

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